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# non certified coastal areas

ANALYSIS OF LAND USE ALTERNATIVES  
FOR THE 'WHITE HOLE' AREAS

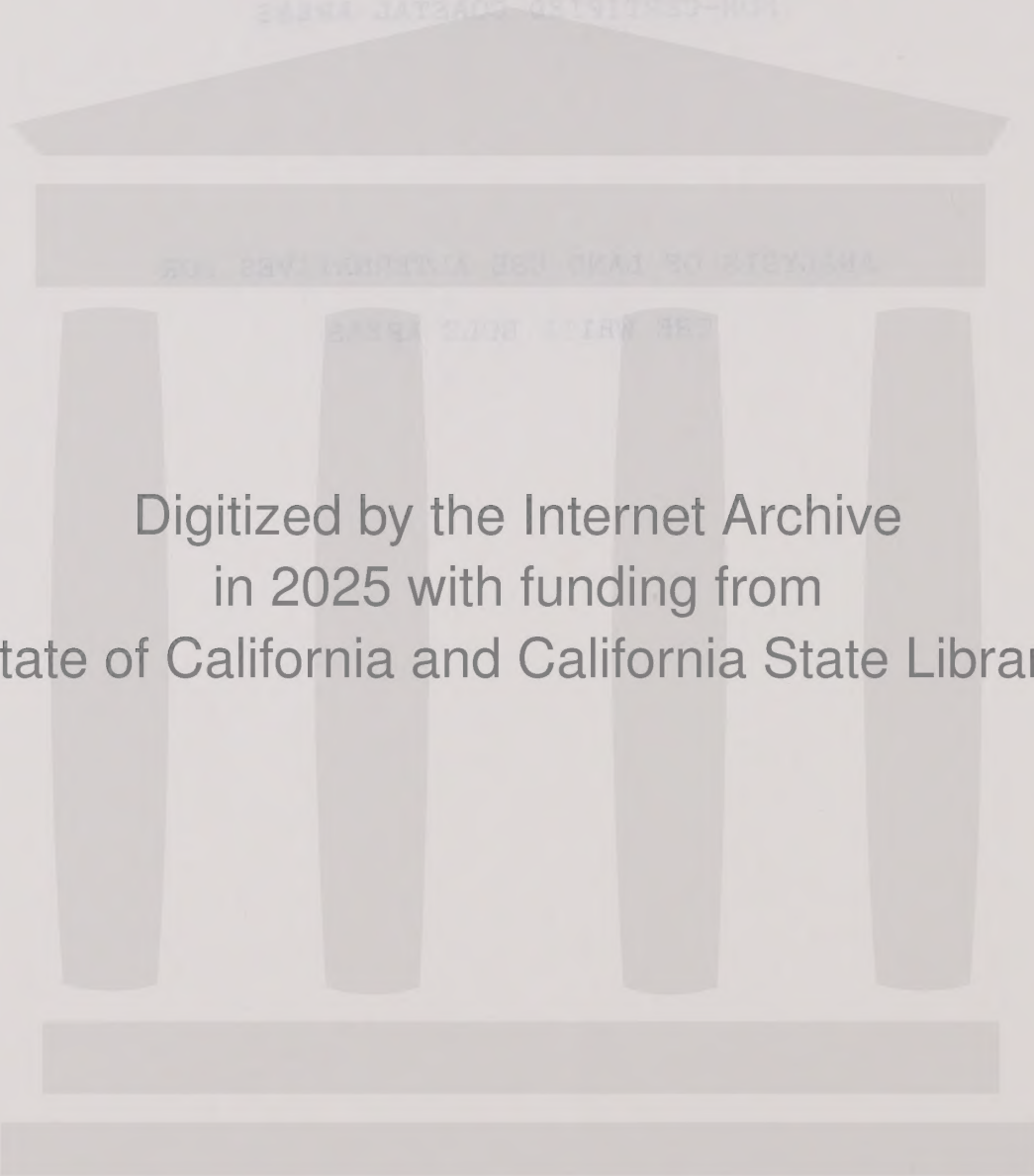


CITY OF HUNTINGTON BEACH  
DEPT. OF DEVELOPMENT SERVICES



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## 1.0 INTRODUCTION

The purpose of this report is to examine the existing conditions and future development possibilities on the properties between Beach Boulevard and the Santa Ana River which were not certified by the California Coastal Commission on April 12, 1982 as part of the Land Use Plan for Huntington Beach. This area between Beach Boulevard and the Santa Ana River is referred to as a "white hole", because it is uncertified, and, therefore, is shown on the Land Use Plan as a blank. It is the City's intent to adopt appropriate land uses for the white hole and complete certification of the Local Coastal Program for the entire City.

This report is intended to provide technical information to the Planning Commission and City Council which will form the basis for their adoption of land use and zoning designations in the white hole area. In compiling the information, staff has reviewed previous studies of the area, consulted with local and state-wide specialists to obtain current expert opinions, and developed new data based on specific land use scenarios. The Coastal Conservancy provided a market analysis on one hotel development and cost factors for road alignment alternatives.

The report is organized around a series of issues which were developed from the planning objectives adopted by the City Council on April 1, 1985. These issues are: flood control, biology, soils and geology, oil extraction, the extension of Hamilton Avenue, Pacific Coast Highway widening, fiscal impacts, the public interest, and equity for private landowners. After examining each of the issues, the report presents conclusions and recommendations.



## 1.1 Area Description and History

The white hole area consists of undeveloped land on the inland side of Pacific Coast Highway between Beach Boulevard and the Santa Ana River, as depicted in Figure 1.1 (page 3). Much of the area lies below sea level, and standing water may often be observed at various locations. The white hole area has been the subject of many studies over the years, some of which will be referred to in later sections of this report. It has been generally acknowledged that some wetland values exist within the area. A full discussion of the biological character of the area and fish and wildlife values attributed to it is included in Section 3.0 of this report.

The California Coastal Act of 1976 contains policies to protect wetlands and other environmentally sensitive areas (see Appendix C). The California Department of Fish and Game advises the Coastal Commission in identifying and designating wetlands within the Coastal Zone.

When the City began its Coastal Planning efforts, it requested assistance from the Department of Fish and Game in identifying wetlands in the Coastal Zone. Biologists from the Department of Fish and Game studied the area in 1979 and presented the City with a preliminary report early in 1980. This preliminary report was considered by the City Council when they originally adopted land uses for the coastal zone in the Coastal Element of the Huntington Beach General Plan on January 19, 1981. The Coastal Element designated the area from Newland Street to Magnolia Street as Industrial/Energy production and the remainder of the white hole area, from Beach Boulevard to Newland Street and from Brookhurst Street to the Santa Ana River, as Visitor-Serving Commercial.

The Coastal Element was submitted to the South Coast Regional Coastal Commission as the City's Local Coastal Land Use Plan, and was considered at a hearing in May, 1981. The Land Use Plan was rejected by the Commission, in part because of the failure to adequately protect wetlands delineated by the Department of Fish and Game in their preliminary determination.

The City Council made minor changes and clarifications to the Coastal Element in June of 1981 and resubmitted it to the California Coastal Commission, which also rejected the Land Use Plan in September, 1981. Additional changes were made by the City Council in August, 1982 and the Land Use Plan was certified in geographic part on November 17, 1982. At this time, the Commission denied certification of the geographic area from Beach Boulevard to the Santa Ana River, creating a white hole.

The Department of Fish and Game's preliminary determination was finalized in 1982, and is used as the basis for the discussion of wetland habitat in Section 3 of this report.

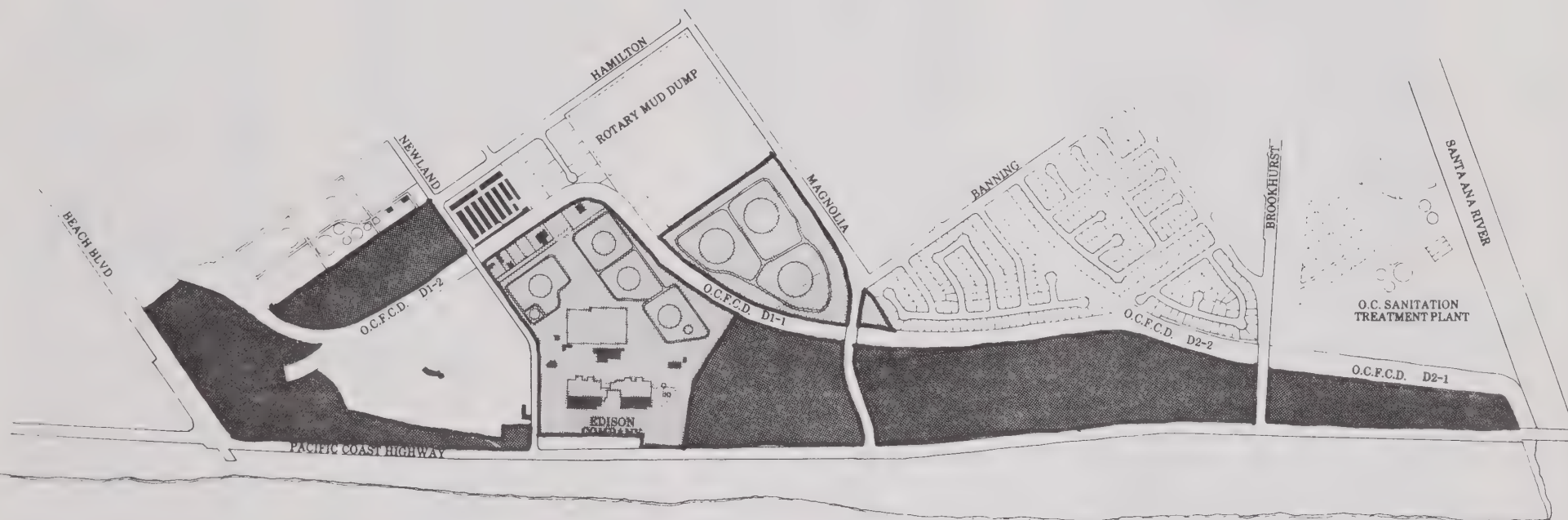
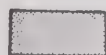


FIGURE 1.1



Non Certified  
White Hole Areas  
Excluded from Analysis



Non Certified  
White Hole Areas  
Included in Analysis



PROJECT AREA

NONCERTIFIED  
COASTAL AREAS

HUNTINGTON BEACH CALIFORNIA  
PLANNING DEPARTMENT



## 1.2 Ownership of Vacant Property

There are five owners of vacant property within the white hole area (Figure 1.2 page 6). The largest owner of vacant property is Caltrans with a total of approximately 66 acres generally located at Beach Boulevard and Pacific Coast Highway and on either side of Brookhurst Street. Daisy Thorpe Piccirelli is the second largest owner of vacant property with approximately 45 acres located on either side of Magnolia Street. Mills Land and Water Company own approximately 19 vacant acres between Beach Boulevard and Newland Street. The Southern California Edison Company owns 14 vacant acres adjacent to the power plant and the Orange County Flood Control District owns 3 acres at Magnolia Street and the (D01) Channel. The City of Huntington Beach owns 1.6 acres at the northeast corner of Magnolia and the flood control channel which has been general planned for Open Space.

## 1.3 Land Use and Zoning

The portion of the white hole area between Beach Boulevard and Newland Street is presently zoned RA-0 (Figure 1.3 page 7). It has had this designation since 1964, when the zoning was changed from R1. The Edison plant and tank farm are zoned M2-0. The vacant Edison property west of Magnolia is zoned M2-0 with a strip of RA. These zoning designations were placed on the Edison property in 1962 and 1967, respectively. The remainder of the white hole area was formerly designated R5 until 1977, when it was rezoned Limited Use District (LUD). LUD zoning is considered a temporary holding zone, to be used for areas which require further study and analysis before permanent zoning is established.

## 1.4 Land Use Alternatives

In analyzing development potential for the white hole area, staff has formulated three alternatives which feature various ratios of development to open space conservation. For purposes of this analysis, the Edison plant and its tank farm, the industrial uses north of the Edison plant and the 1.6 acre wedge of City property at Magnolia and the flood control channel will not be given alternative land uses, as their character and use have already been established. Furthermore, any revenues or costs attributable to these properties would remain the same over the three alternatives. Only vacant property which has the potential to be developed will be included in the analysis of alternatives.

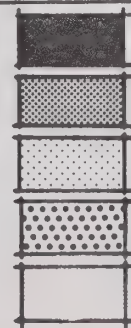
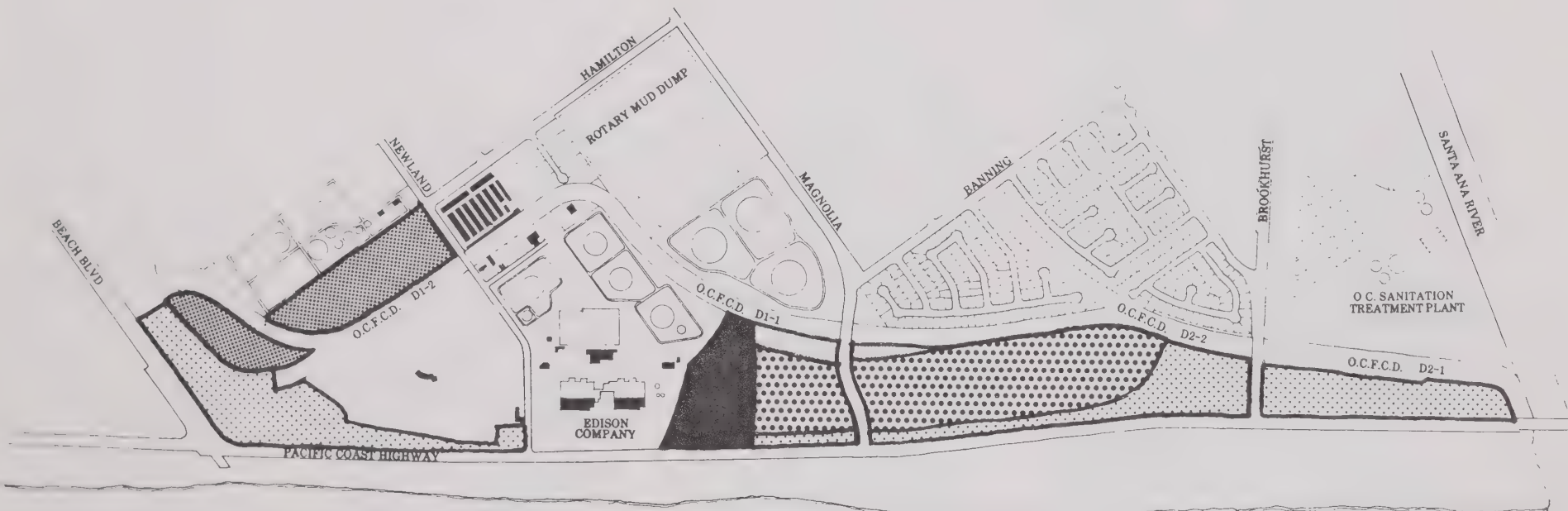
Alternative One (Figure 1.4 page 8) is the least intensive in terms of development. This alternative features approximately 124 acres of Open-Space Conservation and a small amount of Visitor Serving Commercial. Alternative Two (Figure 1.5 page 9) features 78 acres of Open Space Conservation and moderate amounts of Commercial and Medium Density Residential. Alternative Three (Figure 1.6 page 10) is the most intensive alternative with only 27 acres of Open Space Conservation and substantial acreages of Commercial and Medium Density Residential. The following table identifies land use designations by acreage for each alternative:

	<u>Alt. 1</u>	<u>Alt. 2</u>	<u>Alt. 3</u>
Visitor Commercial	5	10	10
Medium Density Residential	0	38	74
Office	0	0	13
General Commercial	0	3	5
Energy Production	17	17	17
Oil Production	1	1	1
Conservation	124	78	27
	<u>147</u>	<u>147</u>	<u>147</u>

For purposes of analysis, the white hole area has been divided into four sub-sections; A) Beach Boulevard to Newland Street; B) Newland Street to Magnolia Street; C) Magnolia Street to Brookhurst Street; and D) Brookhurst Street to the Santa Ana River. The following table identifies Land Use designations by acreage\* for each subsection for each alternative:

	<u>Alt. 1</u>	<u>Alt. 2</u>	<u>Alt. 3</u>
<u>Area 1 (Beach-Newland)</u>			
Visitor Commercial	5	10	10
Medium Density Residential	0	15	18
Office	0	0	13
Conservation	43	23	7
	<u>48</u>	<u>48</u>	<u>48</u>
<u>Area 2 (Newland-Magnolia)</u>			
Commercial	0	3	5
Energy Production	17	17	17
Oil Production	1	1	1
Conservation	9	6	4
	<u>27</u>	<u>27</u>	<u>27</u>
	<u>Alt. 1</u>	<u>Alt. 2</u>	<u>Alt. 3</u>
<u>Area 3 (Magnolia-Brookhurst)</u>			
Medium Density Residential	0	23	56
Conservation	56	33	0
	<u>56</u>	<u>56</u>	<u>56</u>
<u>Area 4 (Brookhurst-Santa Ana River)</u>			
Conservation	16	16	16
	<u>16</u>	<u>16</u>	<u>16</u>
Total Acreage	147	147	147

\* Acreage figures are net after dedications for proposed road improvements.



SO CAL EDISON

MILLS LAND & WATER

CAL TRANS

PICCIRELLI

O.C.F.C.D.

FIGURE 1.2

## OWNERSHIP



**NONCERTIFIED  
COASTAL AREAS**

HUNTINGTON BEACH, CALIFORNIA  
PLANNING DEPARTMENT



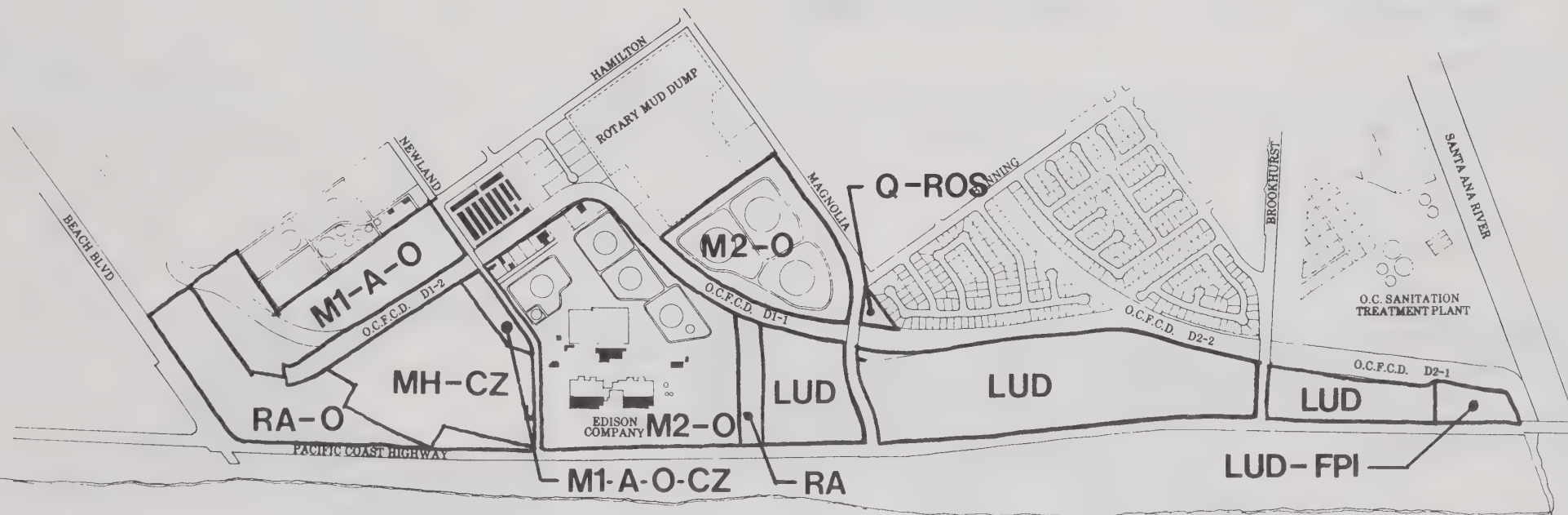


FIGURE 1.3

## EXISTING ZONING

**M1-A-O-CZ**

Restricted Manufacturing District  
Combined with Oil Production  
Coastal Zone Suffix

**LUD**

Limited Use District

**LUD-FPI**

Limited Use District  
Floodplain 1 District

**Q-ROS**

Recreational Open Space District  
Qualified Classification

**RA-O**

Residential Agriculture  
Combined with Oil Production

**M1-A-O**

Restricted Manufacturing District  
Combined with Oil Production

**MH-CZ**

Mobilehome District  
Coastal Zone Suffix

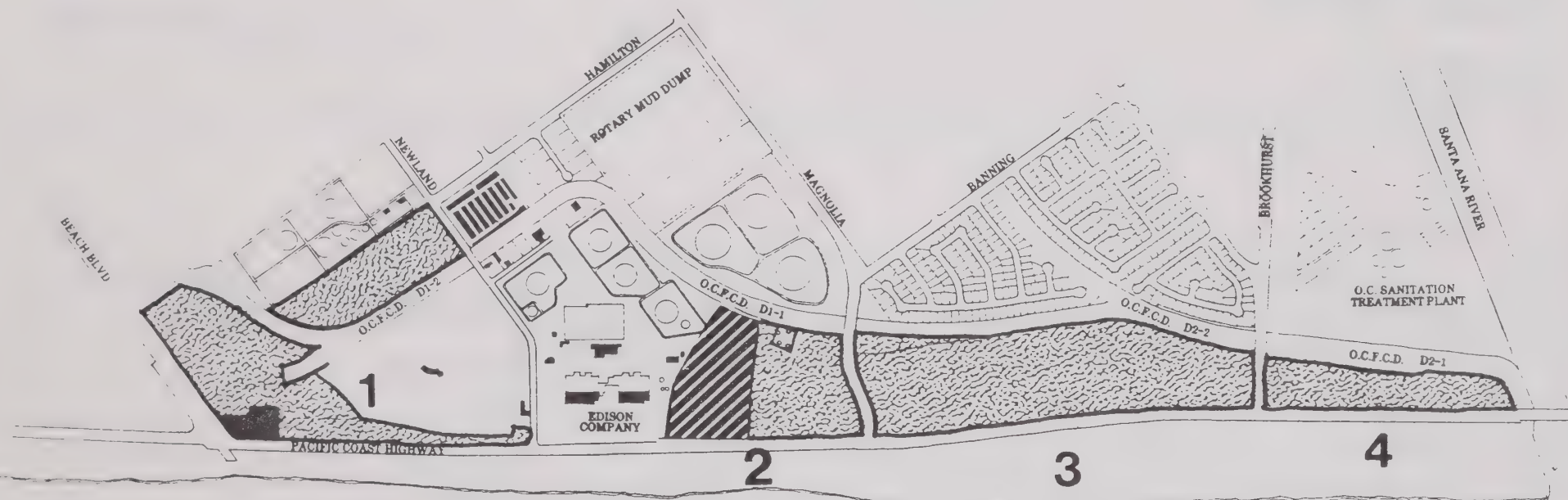
**M2-O**

Industrial District  
Combined with Oil Production



**NONCERTIFIED  
COASTAL AREAS**

HUNTINGTON BEACH CALIFORNIA  
PLANNING DEPARTMENT



### ACREAGE TABULATION

AREA 1		TOTAL ACREAGE	
Visitor Commercial	5AC	Visitor Comm.	5AC
Conservation	43	Oil Prod.	1
		Conservation	124
AREA 2		Cons./ Ind.	17
Oil Production	1	Oil Prod.	
Conservation	9		
Cons./Ind. En. Prod.	17		
AREA 3			147 AC
Conservation	56		
AREA 4			
Conservation	10		



VISITOR COMM.  
 CONSERVATION  
 OIL PRODUCTION  
 CONSERVATION  
 IND ENERGY PRODUCT.

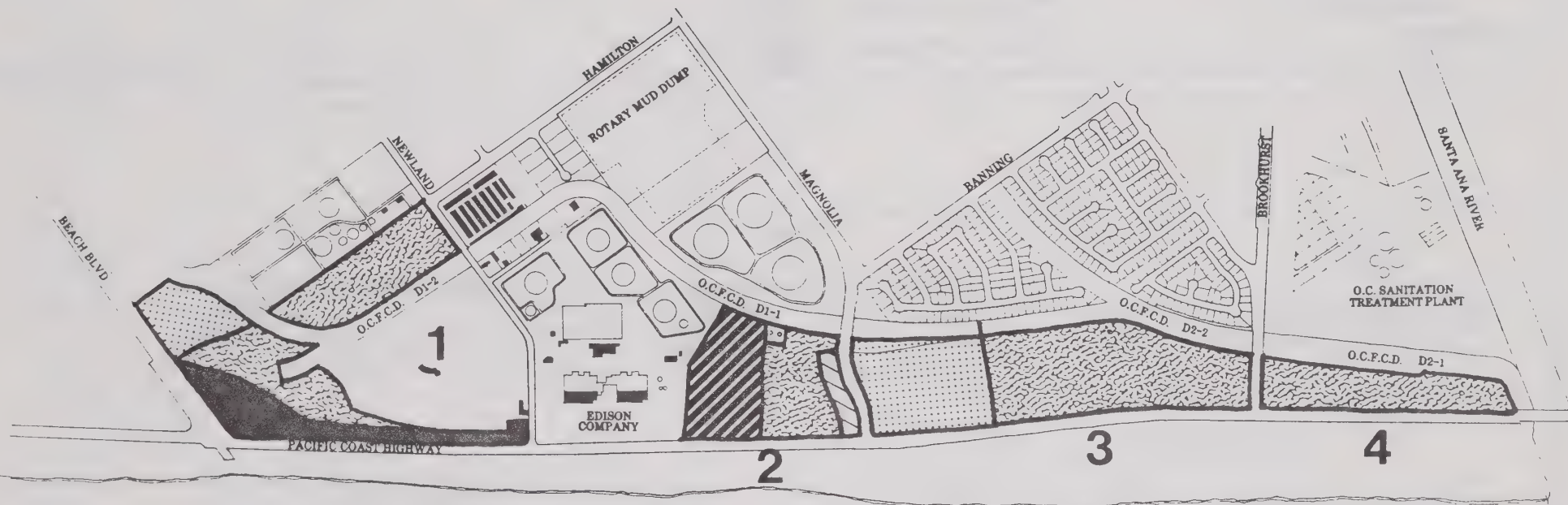
FIGURE 1.4

### LAND USE ALTERNATIVE #1



NONCERTIFIED  
COASTAL AREAS

HUNTINGTON BEACH CALIFORNIA  
PLANNING DEPARTMENT



## ACREAGE TABULATION

AREA 1	
Visitor Commercial	10 AC
Med/High Res.	15
Conservation	23

AREA 2	
General Commercial	3
Ind. Energy Product.	17
Oil Production	1
Conservation	6

AREA 3	
Med/High Res.	23
Conservation	33

AREA 4	
Conservation	16

TOTAL ACREAGE	
Visitor Commercial	10 AC.
General Commercial	3
Med/High Res.	38
Ind. Energy Product.	17
Oil Production	1
Conservation	78
<b>TOTAL</b>	<b>147 AC.</b>



VISITOR COMM.  
GENERAL COMM.  
MED-HIGH RES.  
IND ENERGY PRODUCT.  
OIL PRODUCTION  
CONSERVATION

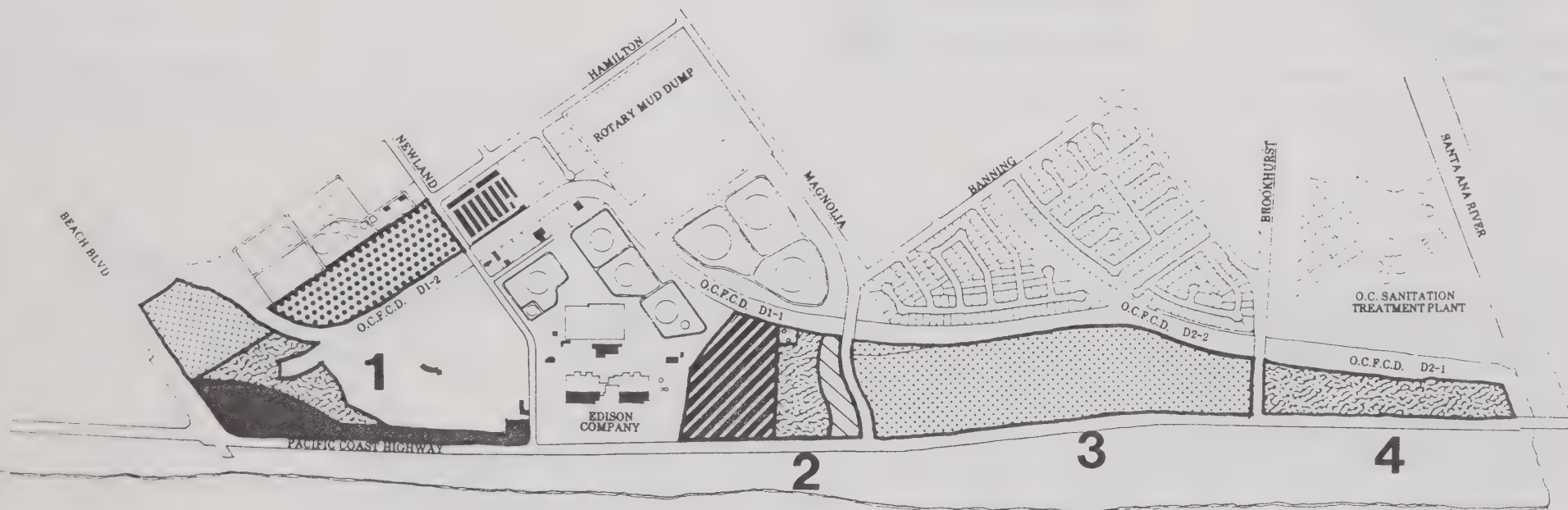
FIGURE 1.5  
LAND USE  
ALTERNATIVE #2



NONCERTIFIED  
COASTAL AREAS

HUNTINGTON BEACH CALIFORNIA  
PLANNING DEPARTMENT





## ACREAGE TABULATION

### AREA 1

Visitor Commercial	10 AC
Med/High Res	18
Office/Professional	13
Conservation	7

### AREA 2

General Commercial	5
Ind. Energy Product.	17
Oil Production	1
Conservation	4

### AREA 3

Med/High Res.	56
---------------	----

### AREA 4

Conservation	16
--------------	----

### TOTAL ACREAGE

Visitor Commercial	10 AC
General Commercial	5
Office/Professional	13
Med/High Res.	74
Ind. Energy Product.	17
Oil Production	1
Conservation	27

147 AC



VISITOR COMM.

GENERAL COMM.

OFFICE/PROFESS

MED-HIGH RES.

IND ENERGY PRODUCT.

OIL PRODUCTION

CONSERVATION

FIGURE 1.6  
LAND USE  
ALTERNATIVE #3



NONCERTIFIED  
COASTAL AREAS

HUNTINGTON BEACH CALIFORNIA  
PLANNING DEPARTMENT

## 2.0 FLOOD HAZARD AND CONTROL

### 2.1 Existing Conditions

#### 2.1.1 100-Year Flood

The white hole area lies within the 100-year flood hazard area as identified by the U.S. Army Corps of Engineers for the Federal Emergency Management Agency (FEMA). A 100-year flood is defined as the flooding which would occur from overflow of the Santa Ana River due to a series of storms, accumulated runoff and high water tables which would fill Prado Dam to the extent that uncontrolled release flow rates into the Santa Ana River would occur. The 100-year flood would originate in Anaheim with water flowing toward the ocean outside of the Santa Ana River channel. A large portion of northern Orange County would be inundated with flood depths ranging from one to eleven feet. The Flood Insurance Rate Map dated February 16, 1983, and prepared for the City of Huntington Beach by FEMA indicates that all portions of the white hole area are in that portion of the floodplain designated A12, Elevation 11. This designation projects a flood water elevation of eleven feet above sea level in the event of a 100-year flood. Since the ground elevation is approximately sea level or below, the projected depth of flooding is eleven feet or more.

In February, 1983, the City of Huntington Beach was required by the Federal Emergency Management Agency to adopt floodplain development regulations for new construction in the floodplain. The regulations

require that residential construction be elevated, with the first habitable floor at or above the projected flood elevation. Commercial and industrial construction must either be elevated or flood-proofed to the projected flood level.

Since the white hole area lies within the deepest portion of the City's floodplain, construction in that area will be impacted to the greatest extent by the floodplain development regulations. Residential construction will need to be elevated eight to eleven feet above grade. This situation essentially dictates the use of first level parking, which in turn dictates medium density attached unit construction. The Seabridge condominium project at Beach Boulevard and Adams Avenue, and the Breakers apartment project at Beach Boulevard and Atlanta Avenue, are both examples of residential construction in the floodplain which have utilized first level parking to attain adequate elevation.

Since commercial and industrial construction can be floodproofed rather than elevated, there is a wider range of design options available for this type of development in the floodplain. Floodproofing does, however, tend to limit the provision of window and door areas on the first level of construction.

It is important to note that the Federal floodplain development regulations as adopted by the City do permit construction in the floodplain without risk of liability if the proper standards are met. Compliance with the standards, however, may not be cost-effective for smaller or less expensive projects and will, in fact, increase the overall cost of any project in the floodplain. Before any project can be constructed, even in compliance with the standards, it will also be necessary to show by means of a hydrology study that the proposed project will not increase the depth of flooding by more than one foot elsewhere in the floodplain. Due to the wide area covered by the floodplain, however, and the fact that the white hole is located at the lowest end of the floodplain, this requirement is probably not a significant constraint.

#### 2.1.2 Local Flood Control System

The 100-year floodplain constitutes only one set of flood related issues in the white hole area. Another important set of issues involves the flood control channels which pass through the area (Figure 2.1 page 13). Huntington Beach, due to its coastal location, lies at the receiving end of much of the flood control system of northern Orange County. Specifically, the Huntington Beach Channel (D01) and Talbert Channel (D02) traverse and converge in the study area. The ocean outlet for these two channels is presently located on the west side of the Santa Ana River mouth.

The flood control system in and around the study area was designed to accommodate 65 percent of a 25-year storm. This capacity was found to be inadequate during the winter storms of 1983, when the channels spilled over in several locations causing substantial flooding of homes, businesses and vacant property. The flooding was compounded by high tides which moved into the flood control channels and reduced their ability to convey water into the ocean.



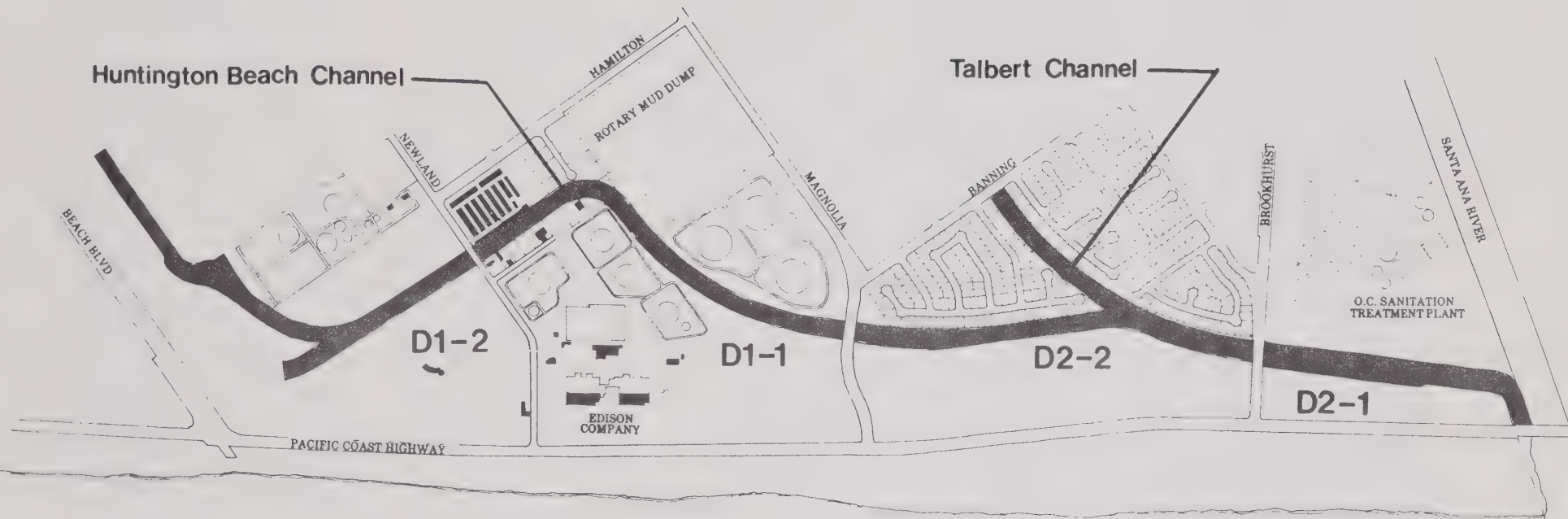


FIGURE 2.1



FLOOD CONTROL CHANNELS



NONCERTIFIED  
COASTAL AREAS

HUNTINGTON BEACH CALIFORNIA  
PLANNING DEPARTMENT

## 2.2 Proposed Improvements

In response to the flooding which occurred in 1983, the County of Orange, which has jurisdiction over the flood control channels, has prepared a plan of channel system improvements intended to increase capacity to that needed to safely convey the water from a 100-year storm. Improvements to be made include retarding basin construction upstream, upgrading of pump stations, and lining and/or reshaping of flood control channels on all reaches of the system. After considerable debate, the County has agreed to retain the ocean outlet in its present general location. The outlet will be moved slightly to the west of the Santa Ana River mouth in order to allow upgrading of the river mouth in the future.

The County has indicated that most of the proposed flood control channel improvements can be made within the existing channel rights-of-way. Making those improvements, however, may involve some destruction of wetland along the south side of the flood control channels in the white hole area. As a result, the County has recognized the need to restore some of the wetlands as mitigation for the destruction which would occur during channel construction.

Apart from the County's plans for channel improvement and mitigation, the Coastal Conservancy has also examined opportunities for wetland acquisition and restoration. Their acquisition efforts to date have focused on the 17 acres of property located between Brookhurst Street and the Santa Ana River presently owned by Caltrans. Past actions have indicated that the 17 acre area is easily restorable to a viable wetland if tidal flushing is reintroduced to the area. Culverts were utilized for tidal flushing in the area for a short period of time in the 1970's, and considerable recovery of the wetlands was observed.

In recognition of the Coastal Conservancy's intent for acquisition and wetlands restoration on the 17 acres, the County has recently proposed an alternative flood control channel improvement on the property which would achieve both ends. The County has proposed removing the south side of the flood control channel between Brookhurst Street and the Santa Ana River and constructing a perimeter berm along Brookhurst Street and Pacific Coast Highway. A small guide channel would be retained in the location of the present channel to convey normal rainfall and runoff.

The perimeter berm would protect Pacific Coast Highway and Brookhurst Street from flood water inundation and would likely be narrower than the existing channel levee which would be removed. Islands could be fashioned in the middle of the 17 acre area to provide habitat for nesting birds. The remainder of the area would be subject to tidal flushing and would become a retention basin in times of heavy rain. The Coastal Conservancy and their hydrology consultant have tentatively endorsed this as a workable and desirable method of conveying flood waters and restoring the wetlands. Since it will utilize the entire 17 acres, however, implementation of this plan will require acquisition of the area from Caltrans, the present owner.

### 2.3 Conclusion

All three of the land use alternatives under consideration in this analysis involve use of the 17 acre area next to the Santa Ana River for wetland restoration. Alternative One features wetlands on all portions of the white hole area except the corner of Beach Boulevard and Pacific Coast Highway. The other alternatives feature varying amounts of development on the areas west of Brookhurst Street. The types of land uses selected for these areas may impact the type of flood control channel improvements which are made.

The County and the Coastal Conservancy have indicated that perimeter berming and removal of the southern channel levee (as proposed east of Brookhurst) would be feasible for other portions of the white hole area as well. Implementation of this measure, however, would likely require acquisition of this property as in the case of the 17 acres to the east. If residential, commercial or industrial designations were placed on portions of the properties west of Brookhurst, then wetland restoration could be implemented through the construction of flap gates or culverts where removal of the channel levee is not feasible. Perimeter berming would still be necessary as a flood protection measure for surrounding land uses.





### 3.0 BIOLOGY

#### 3.1 Existing Conditions

The Huntington Beach wetland is a remnant of what was once an extensive coastal marsh system along the Southern California coastline. The coastal salt marsh is a highly stressed environment for both plants and animals. Only 17 to 21 Southern California plant species can tolerate hypersaline conditions and unpredictable periods of inundation and drought. Tidal flushing, however, is vital to the proper functioning of the marsh. Due to low seasonal precipitation and frequent droughts, flushing is especially important in Southern California because it provides the major source of nutrients and soil moisture. Further, regular flushing controls soil salinity and provides more favorable conditions for many of the plant species.

The Huntington Beach wetland once received tidal flushing via the Gamewell inlet. In approximately 1946, the State of California Department of Parks and Recreation acquired what is now Huntington Beach State Park and closed the inlet extending through the beach, eliminating access to the sea. Subsequent improvements to Pacific Coast Highway, removal of the railroad line, construction of the Southern California Edison Generating Plant and construction of the Orange County Flood Control District (OCFCD) drainage channels all added to the isolation of the area from any direct connection with surface water from the ocean.

As a result, the area is now classified by the Department of Fish and Game primarily as a degraded wetland. Vegetation is supported by salt water intrusion through the soil from the ocean and flood control channels and a limited amount of fresh water runoff. Many plant species have become locally extinct. Due to its ability to withstand the broadest salinity range, pickleweed (*Salicornia virginica*) is the dominant species and covers the majority of the area. *Salicornia virginica* is a perennial plant which grows all year long. Growth slows in the winter months and the plants turn a reddish color.

Coastal wetland vegetation provides a unique habitat for a variety of wildlife. This habitat accommodates more species and larger concentrations of birds per unit area than any other ecosystem in North America. Herons, egrets, gulls, terns, shorebirds, ducks, geese, coots, gallinules and rails can be seen in Southern California wetlands throughout the year. The Huntington Beach wetland is part of the Pacific flyway, a North American migration corridor.

Southern California wetland provides a habitat for three endangered bird species: Belding's Savannah Sparrow, the California Least Tern and the Light-Footed Clapper Rail. All three species have been declining in number, along with the loss of wetland habitat. Both the California Least Tern and Belding's Savannah Sparrow have been found in the Huntington Beach wetland. The Light-Footed Clapper Rail is found in adjacent areas but is not found in the Huntington Beach wetland because of the absence of cordgrass, a species which requires tidal flushing to survive.

### 3.1.1 Wetland Preservation

A literature search was performed by staff and the California Coastal Conservancy. There is general agreement among all the sources that wetland-related species are found throughout the area, and that some wetland values do exist. However, there remains a question of precisely where the wetlands are viable to preserve or restore versus where the wetlands are too badly degraded to be feasibly restored. The Department of Fish and Game Wetlands Determination and An Ecological Study of Certain Properties Owned by Mills Land and Water Company and the State of California in the City of Huntington Beach, by Scott Soule and Associates, are analyzed below.

### 3.1.2 Department of Fish and Game Determination

Due to their significance as a sensitive and vanishing ecosystem and as a haven for migratory and endangered birds, the preservation of Southern California wetlands has become a high priority. In 1976, the California Coastal Act was passed, declaring the coastal zone a valuable resource. Wetland areas were identified as sensitive ecosystems which should be preserved and restored.



Pursuant to Section 30411 of the Coastal Act, which gives the Department of Fish and Game authority to study degraded wetlands, the department studied and classified the Huntington Beach wetland. Wetlands are identified in Section 30121 of the Coastal Act as follows:

"lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mud flats, and fens."

The U. S. Fish and Wildlife Service definition is as follows:

"Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

Wetlands as defined here include lands that are identified under other categories in some land use classifications. For example, wetlands and farmlands are not necessarily exclusive. Many areas that we define as wetlands are farmed during dry periods, but if they are not tilled or planted to crops, a practice that destroys the natural vegetation, they will support hydrophytes.

Drained hydric soils that are now incapable of supporting hydrophytes because of a change in water regime are not considered wetlands by our definition. These drained hydric soils furnish a valuable record of historic wetlands, as well as an indication of areas that may be suitable for restoration.

The upland limit of wetland is designated as (1) the boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover; (2) the boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or (3) in the case of wetlands without vegetation or soil, the boundary between land that is flooded or saturated at some time each year and land that is not." (Cowardin et al., 1979)

The Department of Fish and Game interfaced the two definitions and developed the following classifications:

Coastal Salt Marsh - A wetland, as previously defined, exhibiting a water and salinity regime which maintains vegetation characteristic of an estuarine system. For the purposes of this report, the "coastal salt marsh" designation

includes areas which are at least 30% vegetated and where salt marsh indicator plants predominate. Salt marsh indicator plant species include pickleweed (*Salicornia virginica* and *S. subterminalis*), alkali heath (*Frankenia grandifolia*), saltgrass (*Distichlis spicata*) and others.

Coastal Salt Flat - A wetland, as previously defined, where vegetation is lacking (less than 30% coverage) and soils are poorly developed as a result of frequent or relatively drastic surface water fluctuation and/or high concentrations of salts in the water or substrate.

Fresh/Brackish Water Marsh - A wetland, as previously defined, exhibiting a water regime which maintains vegetation which is typically adapted to fresh or brackish water conditions. For the purposes of this report, the fresh/brackish water marsh designation includes areas which are at least 30% vegetated and where fresh/brackish water plants predominate. Fresh/brackish water marsh indicator plant species include spiny rush (*Juncus acutus*), sedge (*Cyperus* spp.), bulrushes (*Scirpus* spp.), cattails (*Typha* spp.) and others.

Based on the definitions above, the Department of Fish and Game found that, of the 162.6\* acre studied in Huntington Beach (Figure 3.1 page 21), there are 114.7 acres of historic degraded wetland, 35.2 acres of former wetland which have been so severely degraded that they no longer function as wetland and 12.7 acres of historic upland. The term "degraded wetland" is defined by Fish and Game as follows:

"A wetland which has been altered by man through impairment of some physical property and in which the alteration has resulted in a reduction of biological complexity in terms of species diversity of wetland associated species which previously existed in the wetland."

According to Fish and Game, the degraded wetland determination is not meant to imply that these non-tidal wetlands do not provide significant wildlife values, nor that they are not highly productive. In fact, pickleweed dominated salt marshes are one of the most productive natural plant communities. In addition, the degraded wetlands provide significant habitat value to wetland associated birds.

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\* The 162.6 acre area studies by Dept. of Fish and Game included some land that has already been certified by the Coastal Commission as part of the City's Local Coastal Program. The already certified parts of the study area are not addressed in this report; therefore acreage figures used elsewhere in this report will differ from those used by the Department of Fish and Game.

USE BY WETLAND-ASSOCIATED BIRDS

<b>H</b>	HIGH
<b>M</b>	MODERATE
<b>L</b>	LOW




**LEGEND**

 **DEGRADED WETLANDS**


 **COASTAL SALT MARSH**


 **COASTAL SALT FLAT**

 **FRESH/BRACKISH WATER MARSH**

 **FORMER (HISTORIC) WETLANDS**

 **Restorable**

 **Not Restorable**

 **COASTAL ZONE BOUNDARY**



 **CALIF. LEAST TERN 5-ACRE NESTING SANCTUARY**

FIGURE 3.1  
WETLANDS AS DEPICTED BY  
DEPT. OF FISH & GAME



**NONCERTIFIED  
COASTAL AREAS**

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Fish and Game determined that 136.6 acres of historic wetland in Huntington Beach are feasibly restorable. "Feasible" is defined by the Coastal Act as follows:

"Capable of being accomplished in a successful manner, within a reasonable period of time, taking into account economic, environmental, social and technological factors".

Thirteen and three tenths acres of historic wetlands are not feasibly restorable by virtue of their being adjacent to active development, the magnitude of fill disposition and/or their size and shape. These areas are not vegetated by wetland species nor do they provide significant value for wildlife.

Of the 12.7 acres of historic upland, 8.7 acres adjacent to Pacific Coast Highway and downcoast from the power plant are composed of coastal dune habitat and are environmentally sensitive pursuant to Coastal Act Sections 30107.5 and 30240. They constitute approximately 35% of all remaining coastal dune habitat in Orange County. The remaining 4 acres of historic upland located upcoast from the power plant are not environmentally sensitive nor do they operate as effective buffers to the wetland system because they exist primarily between Pacific Coast Highway and active development such as the power plant and mobile home parks (Page 10 of Fish and Game Wetlands Determination).

### 3.1.3 Soule and Associates Study

Mills Land and Water Company, one of the property owners in the white hole area, hired Scott Soule and Associates in 1980 to prepare an independent study entitled "An Ecological Study of Certain Properties Owned by Mills Land and Water Company and the State of California in the City of Huntington Beach." The report evaluated four parcels located on the inland side of Pacific Coast Highway from Newland Street westward to and including a narrow strip bordering the west side of Beach Boulevard. The parcels are owned by Mills Land and Water Company, State of California Department of Transportation (Caltrans), Sassoon-Mayer, and the City of Huntington Beach. Parcels owned by Sassoon-Mayer and the City of Huntington Beach are not part of the white hole area.

The Soule Report states that the study area presently supports a partial salt marsh, incomplete in structure and function, a declining remnant of a once extensive ecosystem. The finding is supported by the following observations by Dr. Richard Vogl, Professor of Biology, California State University, Los Angeles:

1. The vegetation on the Mills Land and Water Co. land represents a remnant of a once extensive salt marsh.
2. The present vegetation is similar to the middle littoral zone of an undisturbed salt marsh, but is decadent and no longer functioning normally. (As of October 1980, almost all of the pickleweed appears to be dead.)

3. Only one out of four plant associations or zones, and only 8 out of the 21 species that are common to Southern California salt marshes, are present on the Mills property.
4. Almost all of the mud dwelling animals are currently absent, probably because of the long period of isolation from sea water flow and exchange.
5. The endangered Belding's Savannah Sparrow was observed on the property, but the recent (unauthorized?)\* openings in the Orange County Flood Control levee have apparently resulted in the temporary setback and possible destruction of almost all of the Belding's Savannah Sparrow habitat (stands of pickleweed). Other adjacent parcels undergoing development have (or had) similar endangered species habitat, some of which is in better condition.
6. The land is primarily used as a resting and loafing area for migratory and local shorebirds and gulls. Foods for most of these and other birds are largely absent in the marsh.
7. The Mills parcel contains wetlands that are comparable to the State, City of Huntington Beach, and privately-owned parcels that have been or are committed to development.

Although Dr. Vogl feels that restoration would benefit the wetlands, Soule states on page 33 of his report that the feasibility of restoration is questionable.

#### 3.1.4 Other Studies

Appendix F lists other studies which were undertaken in the area. Since they generally agree with the DFG determination, they need not be discussed in detail until more specific restoration plans are developed.

#### 3.2 Restoration

Conclusive evidence of the possibility of restoring the wetland areas was demonstrated on the 17 acre Caltrans parcel between Brookhurst and the Santa Ana River, where culverts were opened to allow tidal flushing. Accordingly to Fish and Game, once tidal flushing was re-established, a large and diverse complement of fish and invertebrates recolonized the area within six months. Similar results can be expected in the remainder of the study area.

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\* Note: Since the completion of this report, the openings in the flood control channel have been closed. The present condition of the pickleweed is not known.

The following methods have been proposed to restore tidal flushing:

A. Removal of the levee wall.

One possibility for wetland restoration would involve the removal of the levee on the south side of the Talbert Channel. Diking would be constructed to protect the mobile home park at Pacific Coast Highway and Newland Street as well as the Edison Plant, Pacific Coast Highway and the other arterials. This alternative would allow maximum tidal range and, by allowing freshwater inflow as well, would closely approximate original conditions. The removal of the levee would create 8.33 acres of additional wetland (Figure 3.2 page 25). The channel mouth would simulate an ocean inlet.

Grading would be required to re-create the elevations necessary to establish all the salt marsh zones. Care could be taken to assure preservation of sufficient pickleweed habitat for the Belding's Savannah Sparrow.

The Orange County Flood Control District is tentatively agreeable to this alternative. Removal of the levee and the construction of protective dikes around the perimeter of the marsh would be cheaper than the present plan to widen and reline the channel. Further, the restored marsh will act as a flood retention basin for peak flows down the Talbert Channel, reducing the flood hazard upstream. Finally, maintenance costs would be minimal when compared to the cost of maintaining culverts with flap gates in the channel levee. This alternative may be the most feasible and is preferred by the Coastal Conservancy and the Orange County Flood Control District (OCFCD).

B. Construction of culverts with selective water control devices in the channel levee.

Section 30411(b)(1) of the Coastal Act requires Fish and Game to determine whether major restoration efforts would be required to restore the identified degraded wetlands. Fish and Game found that tidal flushing and restoration could be feasibly and easily achieved by the construction of culverts with selective water control devices (flap gates, slide gates, flashboard risers, etc.) between the wetland areas and the channel. This method was used successfully in the past on the 17 acre Caltrans parcel. Protective diking would again be required, but the culverts could be constructed to allow a controlled amount of inflow into the marsh. The height of the dikes could be set accordingly. Again, the restored marsh could serve as a flood retention basin. In this case, however, the OCFCD would still need to improve the



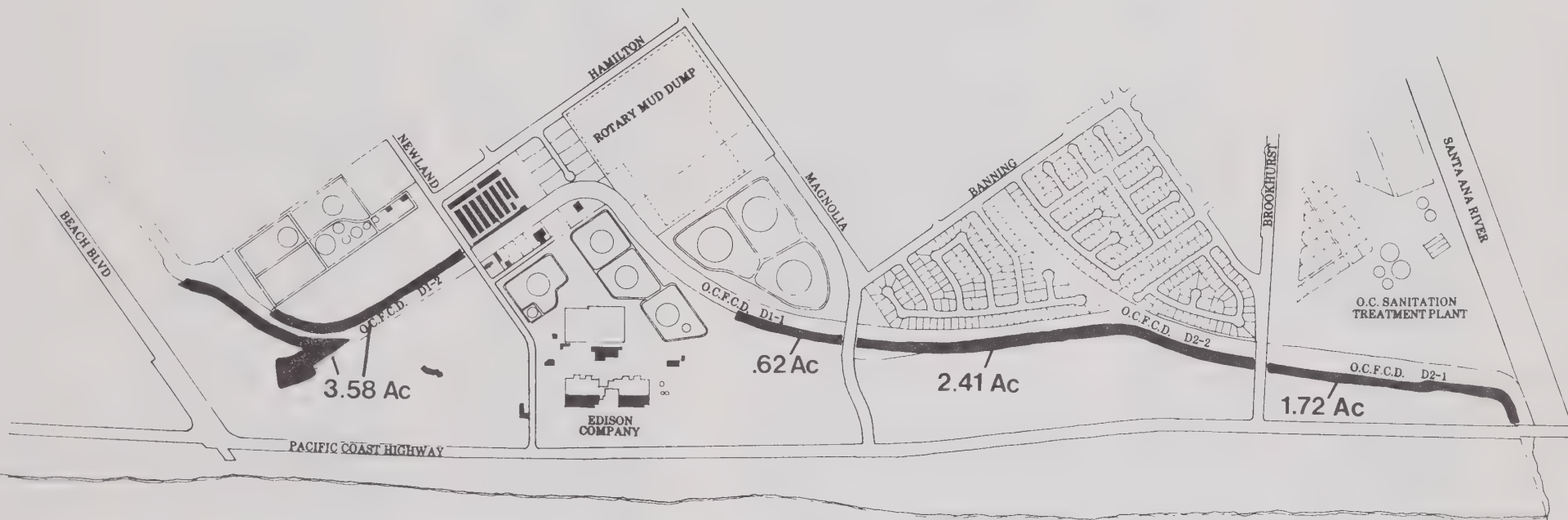


FIGURE 3.2

 POSSIBLE CHANNEL LEVEES  
TO BE REMOVED (8.3 AC)

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channel. The cost of the installation of the culverts and continuous maintenance to keep them free from debris make this alternative less feasible, both technically and economically, than the removal of the levee. In addition, tidal flushing would be less efficient and less tidal range would be expected.

C. Construction of an ocean inlet.

The Soule report states that the construction of channel culverts as described above would not provide sufficient tidal flushing. The only effective way to restore the degraded wetland, according to the report, would be to reconstruct an inlet similar to the original Gamewell inlet.

Due to economic, engineering, social and political considerations, this alternative appears to be the least feasible. According to the Coastal Conservancy, the cost of constructing a similar inlet in the Bolsa Chica has been estimated at \$50 million. Construction of a bridge over the channel would be necessary on Pacific Coast Highway. The channel would cut through Huntington Beach State Park, disrupting recreational uses and disturbing sand deposition. Finally, an ocean cut would only allow salt water inflow. Fresh water is also needed to provide the wide salinity range normally found in a salt marsh.

### 3.3 Summary

All three alternatives would restore tidal flushing to the degraded wetland. Alternative A seems to provide the greatest tidal range at the lowest cost, but more detailed feasibility studies should be completed before a method is chosen. Past restoration efforts have demonstrated that a fully functioning marsh would re-establish itself provided that the marsh design allows the elevations that are necessary to establish the four salt marsh zones. Care must be taken to preserve an adequate amount of pickleweed for the Belding's Savannah Sparrow.

The California Coastal Conservancy is currently discussing the feasibility of the above alternatives with City staff, the property owners, OCFCD, the Coastal Commission, the Army Corps of Engineers and other agencies, and will develop conceptual plans for permanent restoration of the Caltrans 17 acre parcel between Brookhurst and the Santa Ana River. These conceptual plans could be applied to the restoration of the remainder of the Huntington Beach wetland.

#### 4.0 SOILS AND GEOLOGY

##### 4.1 Existing Conditions

The white hole area is located in a coastal plain within the greater Los Angeles Basin. The ground surface consists of relatively flat marsh and some upland which is located along Brookhurst and Pacific Coast Highway and along Beach Boulevard and Pacific Coast Highway.

##### 4.1.1 Soils

Near-surface earth characteristics within the area result from geologically recent\* alluvial and tidal marsh sediment deposits. These deposits are primarily caused by stream channel and floodplain activity within the Santa Ana Gap. General characteristics of the soil are:\*\*

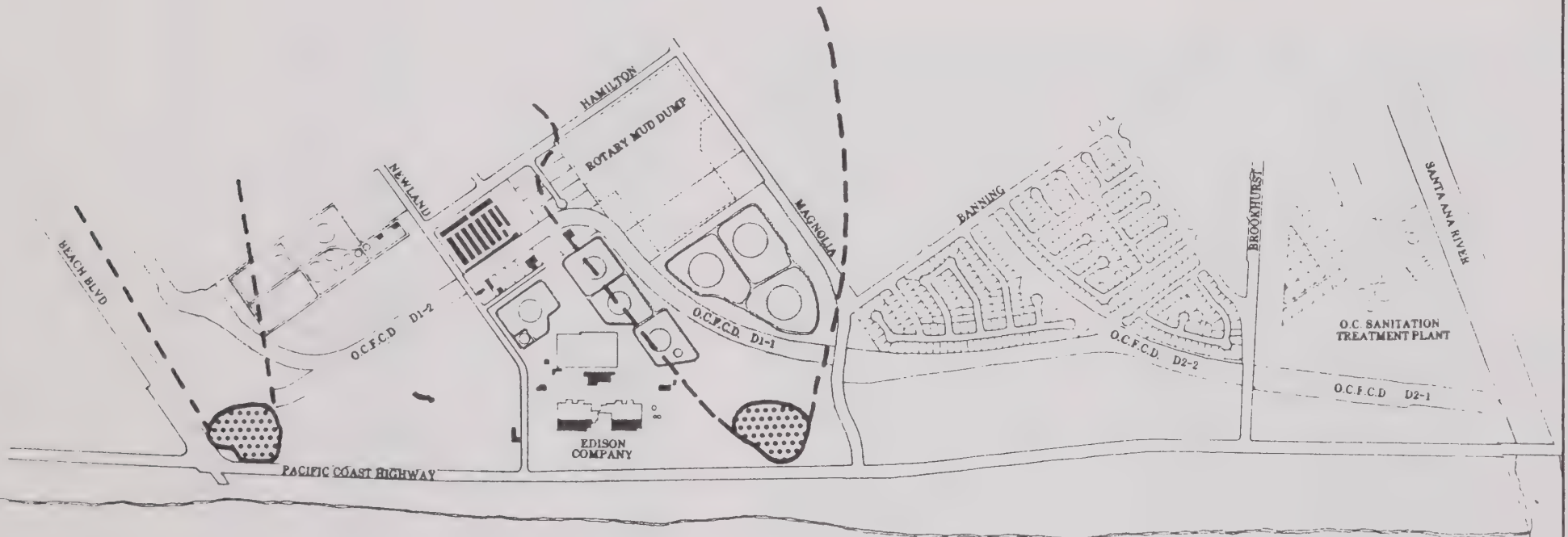
- . Unconsolidated channel deposits composed of generally coarse-grained sands and gravels.
- . Floodplain deposits composed of fine-grained sands and silts with numerous layers of peat. Concentrations of peat, one half to five feet thick, have been identified at the southwest corner of Beach Boulevard and Pacific Coast Highway and the southwest corner of Magnolia Avenue and Pacific Coast Highway (see Figure 4.1).

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\* Within the last 15,000 years.

\*\* Source: Geotechnical Inputs, Huntington Beach Planning Dept.





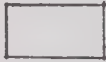


-  PROBABLE LOCATION OF PEAT  
(AREA & DEPTH UNKNOWN)
-  1/2'-5' THICK LAYER  
OF PEAT
-  INFERRED BOUNDARY

FIGURE 4.1

## PEAT AND ORGANIC SOILS



## NONCERTIFIED COASTAL AREAS

HUNTINGTON BEACH CALIFORNIA  
PLANNING DEPARTMENT

- . Varying zones of clay, soft to firm silty clays and clayey silts mixed with significant amounts of fine organic mud.

For example, a geologic survey in 1983 of the site that now contains the "Breakers Apartments" (an area on the east side of Beach Boulevard, approximately 2,000 feet north of Pacific Coast Highway), revealed the following:

Varying zones of clay and sand to a maximum depth of 71 feet.

- . Five to seven feet - soft to firm silty clays
- . Low strength
- . Moderate compressibility
- . High expansion potential
- . High moisture content
- . High clay content
- . Under clay loose to medium dense fine sands with intermittent and discontinuous zones of clay silt to a depth of about 20-23 feet

#### 4.1.2 Geology

The "Breakers" geology study also reported that ground water levels were slightly above sea level and when heavy equipment began work in the low areas of the site, water percolated to the surface.

Significant engineering geology properties found in the white hole area are:\*

- . Channel deposits form important fresh water aquifer confined by overlying relatively impermeable floodplain and tidal deposits.
- . Shallow aquifer subject to artificially caused water quality degradation.
- . Peat lenses compressible under moderate static loads.
- . Shallow ground water from highway runoff and sea water percolation.

#### Fault Locations

The white hole area is within two miles of the main branch of the Newport-Inglewood fault and approximately five miles northwest of the epicenter of the 1933 earthquake, which was on the north branch

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\* Source: Geotechnical Inputs, Huntington Beach Planning Dept.

of the Newport Inglewood fault and had an intensity equivalent to 6.3 on the Richter Scale. During the 1933 earthquake the zone of rupture spread northwest from the epicenter in a direction that included the white hole area.

Various studies have depicted the Newport-Inglewood Fault and its numerous branches. A 1957 study published by the State Department of Oil and Gas (DOG) (see Figure 4.2), depicts the north branch of the fault, a south branch (which crosses the eastern portion of the white hole area) and a fault titled the Aldrich Fault (which parallels the south branch and also crosses the white hole area). The DOG study was based on oil company analyses of the West Newport Oil Field which are discussed in the following section on oil production.

In 1973, Leighton and Yen (now Leighton and Associates) conducted an extensive geotechnical analysis of the City. One of the maps in that study depicts North and South Branches of the fault plus six other faults (see Figure 4.3). The Aldrich Fault, which was brought to staff's attention by Mr. William Curtis, does not appear in the Leighton map nor does it appear in more recent maps produced by the State Division of Mines and Geology. One explanation for this could be the methods of field analysis used by the oil companies, who are interested in sub-surface geologic features, versus Leighton, et al, who are more concerned with surface features. There is also a possibility that the Aldrich Fault could be the South Branch fault. In the subsurface cross section of the 1957 DOG study the subsurface curving of the faults is illustrated (Figure 4.2). The curve or angle of a fault could mislead someone studying those faults. For example, an oil company test drill could encounter a portion of the fault at 1200+ feet (subsurface) while the surface feature of the fault is 300 to 500 feet away from the drill site.

Within the last five years varying opinions have been expressed regarding the existence of the South Branch of the Newport Inglewood Fault. Woodward and Clyde, who prepared the geologic studies for the Bolsa Chica,\* have stated that they found no evidence of a South Branch. Bill Bryant, with State Mines and Geology, who has done extensive studies of the North Branch, has stated that he could not rule out the existence of a South Branch. Mr. Bryant stated that there has not been evidence of seismic activity in the Santa Ana Gap (which includes the white hole area) during the Holocene era, within the last 11,000 years. Richard Lung of Leighton and Associates\*\* has expressed his concern about the South Branch and future development in the vicinity of that branch of the Newport Inglewood Fault. Mr. Lung has stated that there is enough evidence to indicate a subsurface South Branch Fault, paralleling the fault we show in Figure 4.4. He is basing his opinion on old aerial photos and private geotechnical subsurface (boring), investigations.

\* Woodward-Clyde Consultants, Preliminary Evaluation of Surface Faulting Bolsa Chica Local Coastal Program, January 1984

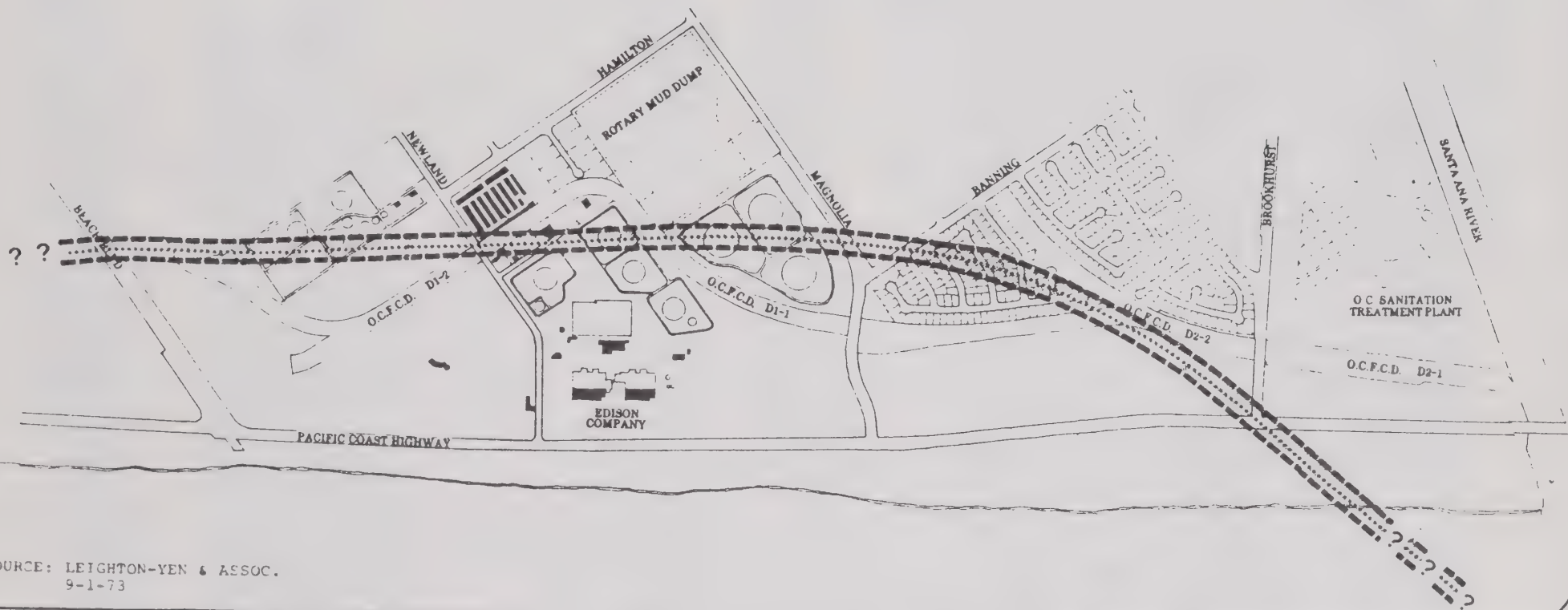
\*\* Phone conversation, November 12, 1985





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SOURCE: LEIGHTON-YEN & ASSOC.  
9-1-73

??

UNCERTAINTY AS TO EXISTENCE  
OR EXTENSION OF FAULT



HIGHEST SEISMIC RISK  
(GREATEST SURFACE RUPTURE  
POTENTIAL WITHIN CITY)



BURIED TRACE OF FAULT  
(WITHIN 400' ZONE)

FIGURE 4.4

Approximate Location of a  
Possible South Branch  
of the Newport Inglewood Fault



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## Liquefaction

Surface rupture is not a significant risk, but liquefaction is a high risk in the White Hole area. With unconsolidated channel deposits of clay, silt and sand combined with peat (Figure 4.2 page 31) and subsurface deposits of water, liquefaction is probable in the area during an earthquake.

During an earthquake, the resulting ground shaking will tend to compact loose deposits of cohesionless soils. If the soils are saturated, the compaction process will result in an increase in the pore water pressure in the soil. With the increased pore pressure, the water within the soil will tend to flow upward which may turn the soil deposit into "quicksand" due to loss of shear strength.

Flow to the ground surface may be manifested by ground cracking and lurching. Lurching is a sudden sideways motion of the ground surface, where the surface stays essentially intact, due to a loss of strength in underlying strata. Where soil thickness is variable or where the subsoil conditions are erratic, differential compaction of soil layers may occur, resulting in differential settlement of the ground surface.

### 4.2 Impacts

#### 4.2.1 Geotechnical/Land Use Capabilities

Seismic and soil conditions present important considerations for potential development in the white hole area.

Although the existence of the south branch of the Newport Inglewood fault through the white hole area is in dispute, concrete evidence of a fault could greatly reduce possibilities for development in the area. Using the criterion of the Alquist-Priolo Act, no structures for human occupancy, other than single family homes of wood frame construction, are permitted on the trace of an active fault.

Fault rupture, however, is currently not the major issue in the area. The greatest amount of damage from an earthquake would result from ground shaking. Ground shaking contributes to soil liquefaction, which is the major seismic related concern in the white hole area.

Bitter Water Lake Properties, which has a purchase option on Daisy Thorpe Piccirelli's property (area 3 of this study), has given the City a copy of a geotechnical study that their consultants Leighton and Associates prepared. The summary of the study is shown in Figure 4.5 and supports staff research regarding risk of liquefaction in the white hole area (see point number four which states that the potential for liquefaction is "very high").

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\* Preliminary Geologic Evaluation of the State (Alquist-Priolo) Special Studies Zone Maps, Related to the Newport-Inglewood Fault Zone, City of Huntington Beach, California, April 17, 1986.

#### 4.2.2 Mitigation Measures

Measures to mitigate the consequences of liquefaction have been recently proposed in the Bolsa Chica and Breakers geologic studies. Those measures include:

- . Design provisions that permit structures to withstand liquefaction without serious consequences.
- . Bulkheads can be constructed such that little or no lateral movements occur. This can be accomplished by extending sheet-piling well below elevation -20 and by constructing a "dead-man" supported on deep piling. Sheet-piling is a type of bulkhead that is made of interlocking steel panels, about one half inch in thickness. The "dead-man" is a support that anchors the sheet-piling similar to a guy-wire that stabilizes a telephone pole.
- . Pile foundation systems for all structures.
- . Deep densification, such as vibraflotation, to densify the underlying granular soils. Vibraflotation is a process of compaction in which a sifting and shaking of the material allows the heavier particles to settle, forming a firmer or denser base.
- . Site improvement that increases the resistance of the underlying cohesionless soils to liquefaction. Dynamic consolidation and compaction piles appear most likely to provide the necessary means to increase this resistance.
- . Placement of fill across the site. The fill, underlain by a rock blanket 12-24 inches thick, will serve as a means to mitigate excess pore pressure during a seismic event.
- . Remove the upper one foot of the underlying natural soils, which is compressible clay, that is located beneath building floor loads.

#### 4.3 Conclusion

Discussions with the State Geologist (William Bryant) and City engineers in Development Services and Public Works have resulted in the conclusion that a variety of development could occur in the white hole area as long as proper mitigation measures are taken to reduce seismic related risks. As stated previously, liquefaction is the major soils/seismic related risk in the area. Proper bulkhead placement and pile foundation systems, while not eliminating, will greatly reduce seismic related risks to structures. The type of foundation and method of anchoring structures are key mitigation measures for development in the white hole area.

Based on the geologic evidence regarding the possibility of a South Branch of the fault and the knowledge of liquefaction as a component of white hole soils, staff recommends that thorough geologic studies be conducted prior to any development in the white hole area.

LEIGHTON AND ASSOCIATES GEOTECHNICAL STUDY  
OF THORPE/BITTER WATER PROPERTY

SUMMARY OF PRINCIPAL GEOTECHNICAL CONSTRAINTS

1. The South Branch fault trace is considered a major active fault within the Newport-Inglewood fault zone and it parallels and underlies the northeastern property boundary.
2. The epicenter for the 1933 earthquake which devastated the City of Long Beach was located 3.5 miles directly offshore from the subject property.
3. The hazard of seismically induced ground rupture at the site is very high.
4. The potential for liquefaction and other secondary seismic hazards is very high. The occurrence of many of these hazards at or near the site during the 1933 "Long Beach" earthquake has been documented in published reports (refer to "Secondary Seismic Hazards" of this report).
5. The subject property is a natural tidal marsh environment.
6. The site is underlain by 1,000 vertical feet of unconsolidated alluvial sediments, which accumulated in the lower flood plain of the Santa Ana River. In addition, peat deposits may underlie the subject site within the predominantly sandy and silty alluvium.
7. Ground water at the site is very shallow and locally ponds on the surface. It is salt water derived from seawater intrusion and the ground water level is influenced by tidal conditions.
8. The flood hazard at the site is very high due to the inadequate design of the storm drain channel which borders the north side of the property. During the heavy rains and high tides of 1983, channel waters reportedly overtopped the banks and inundated the subject property. Sedimentation may also be a constraint during and after flooding.
9. The onsite materials have high potential for total and differential settlements due to additional fill or structural loads.
10. The salt content of the soils is very high. Vegetation planted at the site may need to be salt tolerant.

Figure 4.5



## 5.0 OIL PRODUCTION

### 5.1 Existing Conditions

In years past, oil production activities have occurred in several portions of the study area, as shown in Figure 5.1 on page 38 and noted on the following table.

<u>Name</u>	<u>Location</u>	<u>Year Drilled</u>	<u>Depth</u>	<u>Date Abandoned</u>
"Mills" R.B. Watkins	Mills Land & Water (W. of Newland)	1955	7,520	1955
"Myers" Huber & Myers	O.C.F.C.D. (W of Magnolia)	information not available		
"Thorpe" Exxon	Thorpe (W. of Magnolia)	1956	1,340	1957
"Thorpe" Texaco	Thorpe (W. of Magnolia)	1953	7,622	1954
"Thorpe" Exxon	Thorpe (E. of Magnolia)	1955	7,889	1955
State 1549 Exxon	Thorpe (E. of Magnolia)	1956	10,886	1956



FIGURE 5.1

## OIL OPERATIONS

## NONCERTIFIED COASTAL AREAS

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● Location of Abandoned Oil Wells



<u>Name</u>	<u>Location</u>	<u>Year Drilled</u>	<u>Depth</u>	<u>Date Abandoned</u>
Hook Bog Gill & Assoc.	Caltrans (W. of Brookhurst)	1958	5,872	1958
"BB" B.B. Oil Co.	Caltrans (W. of Brookhurst)	1935	4,586	1935
"State 1549" Exxon	Caltrans (E. of Brookhurst)	1956	8,695	1957
"Willow Comm." Phillips	Caltrans (E. of Brookhurst)	1943	5,006	1943

Each of the ten wells drilled within the study area was abandoned soon after drilling commenced. No significant amounts of oil were discovered. In 1984, Daisy Piccirelli entered into a lease agreement with D & L Investments to permit a gas drilling operation on a one acre site at the extreme northwestern corner of her property, adjacent to the Southern California Edison property. The lessee for the mineral rights for the site has requested a zone change from LUD to LUD-01 to allow for drilling.

## 5.2 Abandonment

The Division of Oil and Gas (D.O.G.), a division of the California State Department of Natural Resources, regulates the drilling and abandonment of oil wells throughout the State. According to the D.O.G. records, each of the wells was abandoned to D.O.G. standards which were in effect at that time. However, since the late 1950's, numerous technological advances have occurred in the field of well abandonment. None of the abandoned wells in the project area are considered to be properly abandoned to today's standards, according to engineers at D.O.G. Prior to any development occurring in the vicinity of these wells, each would need to be re-abandoned to current standards. This most likely would involve drilling out the old cement plugs and replacing them with new cement plugs per current D.O.G. standards and procedures. New development should also be sited so that the abandoned wells do not lie beneath any structures.

## 5.3 Conclusion

D.O.G. indicates that if portions of the study area were to be inundated to enhance the wetland areas, any well in the inundated area would have to be re-abandoned to meet current D.O.G. standards. The cost of re-abandonment of the wells must, therefore, be included as a cost of any development or wetland enhancement. This cost, barring complications, can be estimated at \$25,000 - \$30,000 per well.





## 6.0 HAMILTON AVENUE EXTENSION

### 6.1 Existing Conditions

The Huntington Beach Circulation Plan of Arterial Streets and Highways designates Hamilton Avenue as a Primary Arterial. Running east and west, Hamilton Avenue constitutes one of only two arterials which presently cross the Santa Ana River in the southern part of the city. Hamilton Avenue's value as a cross-town connector is minimized, however, by the fact that it presently terminates at Newland Street. A portion of the white hole area separates the Hamilton Avenue terminus from Beach Boulevard. At the present time, through traffic is rerouted via Newland Street and Pacific Coast Highway to Beach Boulevard. This rerouting adds approximately one mile to the distance vehicles must travel in each direction and increases traffic volumes on Pacific Coast Highway.

Although Hamilton Avenue presently terminates at Newland Street, the Circulation Plan indicates the eventual connection of the street to Beach Boulevard. This connection is intended to coincide with the extension of Walnut Street from the Downtown to Beach Boulevard. Together, these two extensions will provide an important access between Downtown Huntington Beach and the South Huntington Beach/Costa Mesa area and are expected to convey substantial volumes of traffic.

The segment of Pacific Coast Highway between Newland Street and Beach Boulevard is presently conveying approximately 44,600 average trips per day. This is well in excess of the design capacity of the street in its present Primary Arterial status. After Pacific Coast Highway is improved to Major Arterial status, the existing 44,600 average daily trips will place the street at level of service "C" which is generally considered to be the maximum desirable service level. Any future increase in traffic on Pacific Coast Highway will then exceed level of service "C". Because the Hamilton extension will serve to relieve future traffic congestion from Pacific Coast Highway, it is viewed as an important component of the City's circulation system.

Preliminary designs for the Hamilton Avenue extension call for a 100 foot right-of-way containing a 4 lane roadway, a landscaped median and a bicycle lane. The extension would continue in a straight line from Newland Street to Beach Boulevard and would skirt the southern edge of the tank farm in the white hole area. This alignment, however, would traverse marshland in the white hole area and may violate Coastal Act policies for wetland preservation. In order to reduce the impacts of the extension on the area it traverses, two alternative combinations of alignment and construction have been proposed for consideration. The "no-project" alternative is also discussed.

## 6.2 Project Alternatives

1. This alternative would consist of the alignment of the right-of-way through the white hole area from Beach Boulevard to the corner of Newland Street and Hamilton Avenue by means of an elevated structure on piles (Figure 6.1 page 43). The elevated portion of the extension would be 2,500 in length and would not impede wetland restoration. This alternative represents the least intrusive method when aligning a roadway through a sensitive environmental area. A small amount of fill would be required at the bridge abutments, but impact to any wetlands would be minimal.
- 2A. The second alternative would be the alignment of the right-of-way from Beach Boulevard to the corner of Newland Street and Hamilton Avenue partially through the white hole area and partially through the tank farm north of the white hole area. This alternative would require a 900 foot long elevated structure on piles from Beach Boulevard east to the tank farm, complemented by right-of-way improvements on fill through the tank farm (1,700 feet in length) to the corner of Newland Street and Hamilton Avenue.

The construction of the right-of-way improvements on tank farm land would require the abandonment or relocation of at least a portion of the tank farm. The impact on any wetland would be reduced substantially, and the high cost of constructing one third of the roadway on piles would be partially offset by constructing two thirds of it on fill.



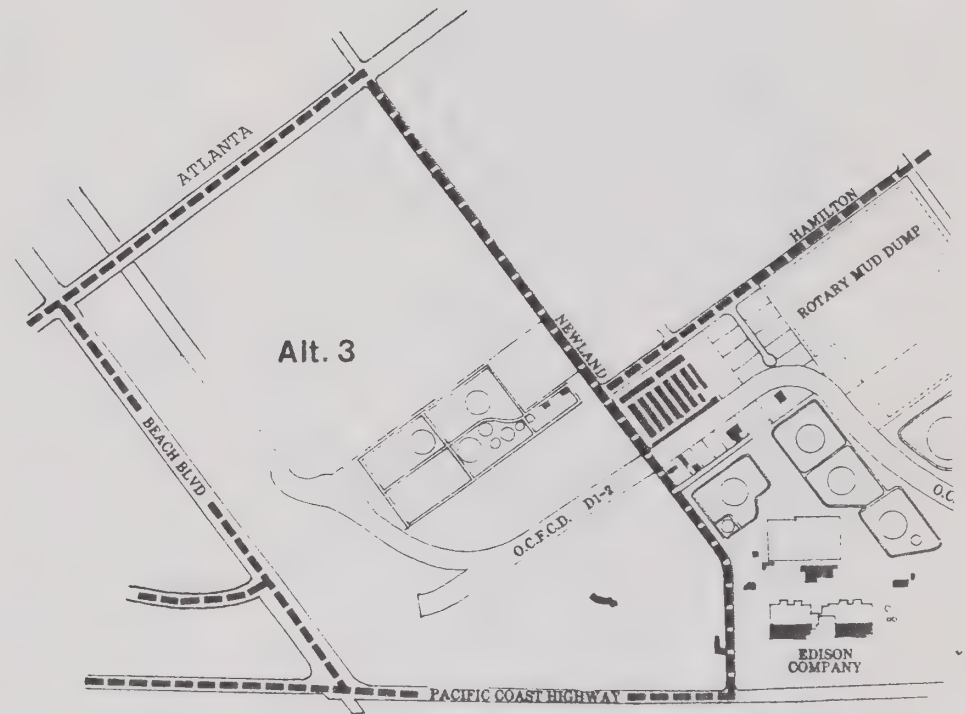
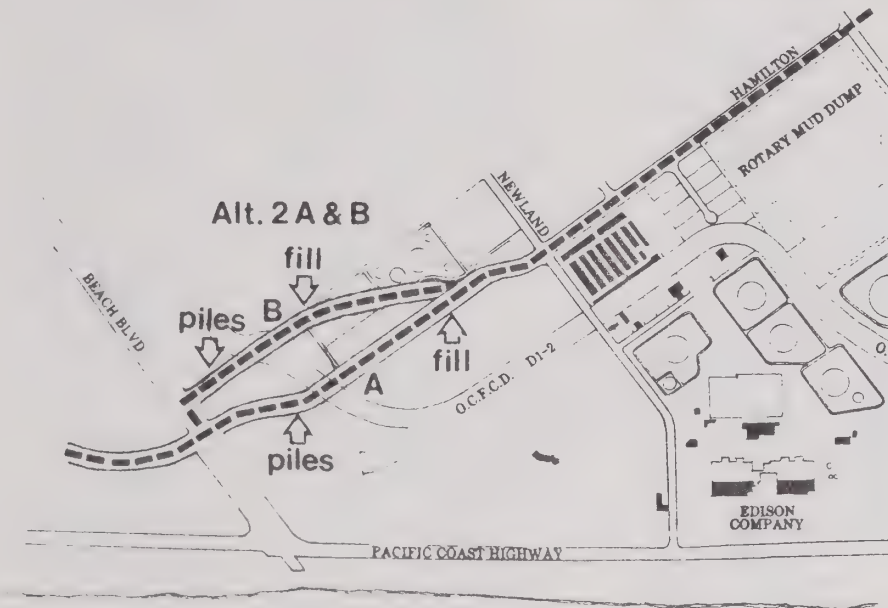
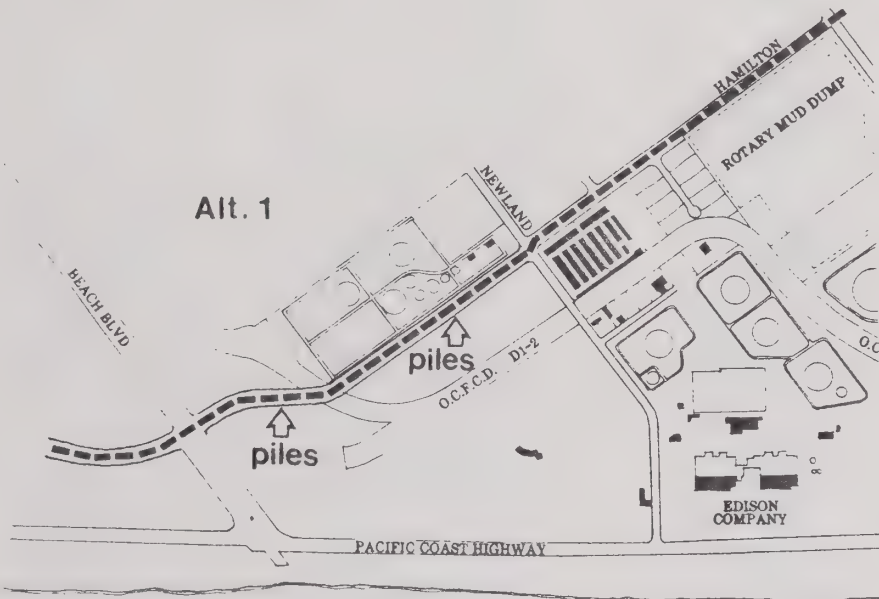


FIGURE 6.1

## HAMILTON AVENUE EXTENSION ALTERNATIVES



**NONCERTIFIED  
COASTAL AREAS**

HUNTINGTON BEACH CALIFORNIA  
PLANNING DEPARTMENT

- 2B. A modification of the previous alternative, this alignment as recommended by Fish and Wildlife would traverse the northern portion of the tank farm rather than the southern portion in order that the connection with Beach Boulevard would not need to divide the wetland south of the Breakers Apartment complex. Rather, this alignment would place Hamilton Avenue on piles on the southern boundary of the Breakers. Staff has three concerns with this alignment: (1) the more northern alignment would result in a Beach Boulevard intersection only 800 feet from an existing intersection for the W&B condominium development on the west side of Beach Boulevard to the north; (2) the more northern alignment would not coincide with the City's proposed Walnut extension from Lake Street to the west; and (3) a more northern alignment would not provide additional access possibilities for the proposed commercial and residential uses along Beach Boulevard.
3. The third alternative is for "no-project". This alternative would continue the existing conditions, routing traffic around the white hole area via Newland Street and Pacific Coast Highway to Beach Boulevard, using the existing street and highway system. No fill would be required and any wetlands would be protected, but this alternative does not provide a cross-town connection.

### 6.3 Mitigation Measures

Three of the proposed alternatives locate the extension of Hamilton Avenue through areas designated by the California Department of Fish and Game as degraded and restorable wetlands. Pursuant to Section 30233 of the Coastal Act, any loss of wetland habitat must be mitigated by wetland restoration. Possible restoration plans are discussed in Section 3.2 of this report.

### 6.4 Cost Analysis

Several elements must be taken into consideration when analyzing the costs of each of the alternatives: land cost, construction cost and mitigation measures cost. Preliminary estimates by the Coastal Conservancy indicate that the construction of the entire structure on piles (Alternative 1) would be the most expensive method of construction. The Coastal Conservancy has estimated the cost of this alternative to be approximately \$4.7 million. The mitigation measures for this alternative, however, may be the least expensive, thereby balancing the cost to a large extent.

The establishment of the right-of-way on fill through the tank farm and on piles to span over the white hole area (Alternatives 2A or 2B) appears to be the least expensive approach from a construction standpoint. Its construction cost is estimated at \$3.0 million by the Coastal Conservancy, but this alternative could be prohibitively expensive in terms of tank farm acquisition or relocation.

The no-project alternative (Alternative 3) would require no additional expense by the City beyond minor upgrading of some of the surrounding arterials. However, Alternative 3 would not alleviate cross-town traffic congestion on other arterials leading to the Downtown or the beaches.

#### 6.5 Conclusion

It appears that the extension of Hamilton Avenue to Beach Boulevard can be designed in a manner consistent with Coastal Act policies. Alternatives 1 and 2 satisfy wetland restoration and circulation objectives for the white hole area without compromising highway design standards by utilizing construction on piles to minimize landfill.





## 7.0 PACIFIC COAST HIGHWAY WIDENING

Pacific Coast Highway between Beach Boulevard and the Santa Ana River is presently constructed as a four lane undivided Primary Arterial with a right-of-way of 100 feet. In 1983, however, the highway's arterial designation was upgraded by the City and County to that of Major Arterial. This amendment was enacted in response to Caltrans' plans for the widening of Pacific Coast Highway to relieve traffic congestion.

Widening of Pacific Coast Highway will require the use of additional right-of-way on both the ocean and inland sides of the Highway. While the bulk of the widening will occur on the ocean side of Pacific Coast Highway, approximately five and a half acres will be taken from the white hole area on the inland side of Pacific Coast Highway. Caltrans has estimated that 1.33 acres will be taken between the Santa Ana River and Brookhurst Street, 1.6 acres between Brookhurst and Magnolia Streets, 1.6 acres between Magnolia and Newland Streets, and 1.07 acres between Newland Street and Beach Boulevard.

Utilization of 5.6 acres of coastal upland and degraded wetland in the white hole area for highway purposes will require mitigation through wetlands restoration by Caltrans. It is largely due to this need for mitigation that Caltrans is working with the Coastal Conservancy for restoration of the 17 acres between Brookhurst and the Santa Ana River.





## 8.0 FISCAL ANALYSIS

### 8.1 Alternatives

Four land use scenarios were developed to assess revenues and cost impacts to the City from development in the white hole area. The scenarios range from minimal to intense development. Figure 8.1 on page 50 lists the land use scenarios, including acreage and general location. In addition to staff discussion regarding feasible land uses in the area, development concepts were acquired from the Coastal Conservancy and Bitter Water Lake Properties. The Conservancy provided the hotel concept used in Alternative 1, and Bitter Water\* agreed with the condominium concepts staff developed for the area between Brookhurst and Magnolia used in Alternatives 2 and 3. Dan Brennan, City real estate appraiser, was also consulted regarding estimated land and development costs for portions of this analysis.

The land area used in this analysis is a total of 147 net acres. Right-of-way allowances for the widening of Pacific Coast Highway and acreage lost because of the extension of Hamilton Street were deducted from the gross acreage in order to arrive at the above figure. For this reason these acreage figures may not be completely congruent with acreages elsewhere in this report.

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\* Source: Ron DeFelice of Bitter Water Lake Properties. Bitter Water Lake Properties currently has an option to purchase that site from the owner, Daisy Thorpe Piccirelli.

Figure 8.1

## FISCAL ANALYSIS OF LAND USE SCENARIOS

<u>Alternative</u>	<u>Wetland Restoration</u>	<u>Commercial Visitor Serving Beach &amp; Magnolia PCH &amp; PCH</u>		<u>Residential Brookhurst/ Beach PCH/Magnolia</u>		<u>Industrial Energy Production</u>	<u>Oil Production</u>	<u>Professional Office Hamilton Newland &amp; R-5</u>
1	124 acres	180 room 5 acres	0	0	0	17 acres	1 acre	0
2	78 acres	400 room hotel plus retail 10 acres	Commercial 3 acres	Condo's 15 acres	Condo's 23 acres	17 acres	1 acre	0
3	27 acres	400 room hotel plus retail 10 acres	Commercial 5 acres	Apart- ments and condos 18 acres	Condos 56 acres	17 acres	1 acre	Professiona Office R&D 13 acres

The assumptions used for each scenario are as follows:

Alternative 1

- A. Conservation: 124 acres. It is assumed that the wetland area will become public trust land and is, therefore, exempt from property tax.
- B. Hotel: 180 rooms on a five acre parcel at the northeast corner of Beach Boulevard and Pacific Coast Highway. The hotel rooms would generate an average room rent of \$80 per night with a 73 percent occupancy rate. Assuming the developer retains ownership of the hotel, the construction cost, on which property tax would be applied, would be \$13,420,710. The construction cost includes an underground parking structure and ground level amenities such as tennis courts and a pool, plus restaurant and banquet facilities. In comparison to the construction cost, this hotel development scenario, provided by the Conservancy, showed a total development cost (including profit) of \$19,456,416.
- C. Energy Production: 17 acre parcel adjacent to the Southern California Edison plant. Public utility land and improvements are assessed by the State Board of Equalization. The major portion of the 17 acre site is assessed at \$44,667 per acre (15 acres assessed at \$670,000).<sup>\*</sup> The balance of the site (two acres), is within a five acre parcel that is assessed at \$1,000,000. The 17 acre site is currently generating approximately \$1,740, annually, in City property tax revenue. The Edison Company has no immediate plans to develop the site; therefore, for the near future, the site will remain vacant and there will be no major change in property tax revenue. This revenue analysis assesses new or additional revenue based on development, so the revenue discussed above is not included in this analysis. However, if the City rezones a portion of the entire 17 acre site to conservation, the net result could be less property tax revenue generated by that site.
- D. Oil Production: one acre site. At the southeast corner of the flood control channel and the Edison Company property line, William Curtis has surface rights for an oil production drill site on Piccirelli's land. Currently, the property is assessed by the Orange County tax assessor at \$38,000 an acre. For the purpose of this analysis it will be assumed that this site does not incur a change of owner, the property is not reassessed to current market value for oil production and, therefore, the one acre site will not generate additional or new revenue. If oil is discovered the City could, in the future, collect revenue from oil production in the form of a tax per barrel of oil.

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<sup>\*</sup>Source: Gene DuPaul, Valuation Division, State Board of Equalization. See Appendix A for additional information.



Since there is no oil production on the site at the present time an estimate of barrel tax revenue will not be included in this analysis. If oil is discovered the City could, in the future, collect revenue on oil production.

## Alternative 2

- A. Conservation: 78 acres. As in Alternative 1, this would be public trust land and exempt from property tax. Also, with the exception of the 16 acre (net) site between the Santa Ana River and Brookhurst, this alternative integrates wetland and development.
- B. Hotel and Visitor Serving Commercial: 400 rooms on a 10 acre parcel at the northeast corner of Pacific Coast Highway and Beach Boulevard. Using factors provided by the Conservancy and Lavenhol & Horwath,\* this hotel would have a restaurant, coffee shop, banquet facilities, conference facilities and retail shops.

It is assumed this hotel would generate an average room rent of \$80 per night with an average annual occupancy rate of 73 percent. The total construction cost is estimated to be \$32,000,000.

- C. Three Acre Commercial Site: at the northwest corner of Magnolia and Pacific Coast Highway. This development is assumed to have both the components of a neighborhood center and visitor-serving commercial. The buildings will cover approximately 32,670 square feet. The construction value is estimated to be: \$80 per square foot for the structure\*\* and \$30 per square foot for the land, totalling \$6,534,000.
- D. Condominium Development: on a 15 acre parcel in the northwestern corner of the white hole area, on Beach Boulevard adjacent to the Breakers Apartments. At a density of 15 units per acre there would be 225 condos. The average unit value is estimated to be \$200,000 resulting in a total project market value of \$45,000,000.
- E. Condominium Development: at the northeast corner of Magnolia Street and Pacific Coast Highway on a parcel consisting of 23 acres. At a maximum density of 15 units per acre there would be 345 units. It is estimated that the average unit value would be \$238,000, with a development unit value range of \$225,000 to \$250,000, resulting in a total development value of \$82,110,000.

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\* In addition to the Lavenhol & Horwath publication, "Hotel Development," the City's hotel feasibility study prepared by Lavenhol and Horwath was also a resource.

\*\* This estimate is low because the costs associated with mitigating soils/liquefaction were not available.

F. Industrial - Energy Production: (See Alternative 1.)

G. Oil Production: (See Alternative 1.)

Alternative 3

A. Conservation: 27 acres. In addition to the site between the Santa Ana River and Brookhurst Street, approximately seven acres of wetland, adjacent to the hotel site at Pacific Coast Highway and Beach Boulevard, would be restored and integrated into the development plan as well as four acres adjacent to the Edison property.

B. Hotel and Visitor Serving Commercial: 400 rooms on a 10 acre parcel at the northeast corner of Pacific Coast Highway and Beach Boulevard. Using factors provided by the Conservancy and Laventhol & Horwath, the larger hotel would have a restaurant, coffee shop, banquet facilities, conference facilities and retail shops. It is assumed this hotel would generate an average room rent of \$80 per night with an average annual occupancy rate of 73 percent. The total construction cost is estimated to be \$32,000,000.

C. Five Acre Visitor-Serving Commercial Site: at the northwest corner of Magnolia Street and Pacific Coast Highway. Assuming a 25 percent site coverage with a one story structure, the building area would be 54,450 square feet. The cost of construction is estimated at \$80 per square foot, combined with a land cost of \$30 per square foot, resulting in a total constructed value of \$10,890,000.

D. Residential Development: on an 18 acre site, on Beach Boulevard, at the northwest end of the white hole area, bounded by the Breakers Apartment complex and the 400 room hotel discussed earlier in this alternative. For the purpose of this analysis this site will be divided evenly into a nine acre apartment complex and a nine acre condominium development, at a density of 15 units per acre. The apartment complex, with a value of \$70,000 per unit (135 units), would have an estimated market value of \$9,450,000. The condominium development would have an average dwelling unit value of \$150,000 resulting in a total estimated market value of \$20,250,000.

E. Condominium Development: on the 56 acre site between Brookhurst and Magnolia Streets. At a density of 15 units per acre (840 units) and an average unit value of \$238,000 (with a range of \$225,000 to \$250,000) the total estimated market value of the development would be \$199,920,000.

F. Industrial - Energy Production: (See Alternative 1.)

G. Oil Production: (See Alternative 1.)

- H. Professional Office: on a 13 acre site bounded on the south by the flood control channel, on the east by Newland Street, on the north by the extension of Hamilton Avenue (and the Tank Farm) and on the west by residential development and the flood control channel, establish a Research and Design Facility. It is assumed that this type of development would have a structure that covered 60 percent of the site with first floor parking to mitigate the flood risk. The structure is assumed, therefore, to have 339,768 square feet of building area with an estimated construction cost of \$80 per square foot. The land value is estimated to be (upon resale) \$20 a square foot, resulting in a construction value of \$38,507,040.

#### Staff Alternative

- A. Conservation: 113.5 acres. Assuming a transfer of these acres to a public trust entity, such as the conservancy, would result in zero property tax revenue.
- B. Hotel and Visitor-Serving Commercial: This scenario would be the same as Alternatives 2 and 3, a 400 room hotel with commercial uses within the hotel complex. The property tax revenue for this complex is estimated to be \$64,000.
- C. Commercial: companion development to the hotel complex. This two and one half acre site, the balance of the 14 acre visitor-serving commercial, would have 27,225 square feet of commercial building. Assuming similar construction considerations as the commercial uses in Alternatives 2 and 3, this center would have an estimated construction cost/value of \$5,445,000, resulting in property tax revenue of \$10,890.
- D. Condominium Development: on a two acre parcel on Beach Boulevard between the proposed four acre commercial center and the existing Breakers Apartments. At a density of 25 units per acre these 50 residential units would have an average market value of \$120,000. Therefore, the estimated property tax revenue would be \$12,000.
- E. Visitor-Serving Commercial: service station with mini-mart at the northwest corner of Magnolia and Pacific Coast Highway. Based on an analysis of existing stations with mini-marts, this development would have 18,900 square feet of the site developed, including a mini-mart consisting of approximately 2,000 square feet. Again, based on existing stations, the construction value of the service station would be \$200,000\* and the remaining acreage would have an estimated market value of \$53,406. The estimated property tax revenue from this site would be \$507.
- F. Oil Production. (See Alternative 1.)

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\*This estimate includes the structure plus gasoline tanks and equipment.



## 8.2 Results of Analysis

This analysis is based on a one year comparison, of revenues generated to and service cost impacts upon, the City of Huntington Beach from each land use scenario. The categories used in this analysis are major revenue and cost factors. The purpose of this analysis is to examine on-going revenues versus costs, therefore one-time development fees are not included. This analysis is not intended to replace or be used as a detailed market feasibility study.

Four alternatives are compared on the basis of their relative cost and benefit impacts. By comparing relative revenues and costs (see Figures 8.2 and 8.3) the results of the analysis, as shown below, indicate Alternative 3 generates the most revenue, while Alternative 2 has the highest revenue to cost ratio and generates the least revenue (also the lowest costs).

### REVENUE/COST SUMMARY

	<u>Revenue</u>	<u>Costs</u>	<u>Revenue to Cost Ratio</u>	<u>Net Revenue</u>
Alternative 1	\$ 282,203	\$ 12,012	23.49	\$ 270,191
Alternative 2	\$1,094,414	\$199,553	5.48	894,861
Alternative 3	\$1,560,019	\$451,397	3.46	1,108,622
Staff Alternative	\$ 739,105	\$ 36,734	20.12	702,371

At the present time it has not been feasible to accurately incorporate economies of scale into this analysis, yet it is important to note that the costs estimated in this report are expected to be modified by economies of scale. Specifically referring to the difference in costs between Alternatives 2 and 3, economies of scale would modify or reduce that difference due to the following:

Economies of scale enable a functional unit to expand its capacity at marginal costs. The methodology applied to this fiscal analysis allocates costs for each additional new unit by the average cost of existing (in place) units. Realistically, since most capital improvements are already in place, and increases in many budget areas are affected by many factors (i.e. inflation, changes in technology, automation) other than increases in population/development, any new unit added to the system would have, on the average, a lower cost impact than the average existing units.

In a "real world" situation, therefore, the costs per alternative are expected to be less than the estimates shown. The revenue to cost ratios are also expected to be greater than the estimates calculated in this analysis.

See Appendix B for a detailed discussion of the methodology used for this analysis.

Figure 8.2

## WHITE HOLE LAND USE ALTERNATIVES

## Revenue Estimates

<u>Revenue Factors</u> <u>Alternative</u>	<u>Alternative 1</u>	<u>Alternative 2</u>	<u>Alternative 3</u>	<u>Staff</u>
. Property Tax	\$26,841	\$331,288		\$622,034
. Sales Tax	14,400	102,786		179,277
. Transient Occupancy Tax	228,321	511,584		511,584
. Utility/Cable TV Tax	11,236	81,022		133,290
. Business License	1,405	2,947		3,014
. Fines, Forfeitures and Penalties	N/A	13,498		23,088
. Cigarette Tax	N/A	3,363		5,753
. Motor Vehicle In-lieu Tax	N/A	28,147		48,146
. Gas Tax Fund	N/A	19,779		33,833
Totals	\$282,203	\$1,094,414		\$1,560,019

Figure 8.3

## ESTIMATED COSTS PER ALTERNATIVE

Alternative I

B.	Hotel Development - 5 acres	
	<u>Costs</u>	
	General/Administration	\$ 3,201
	Fire Department	3,221
	Police Department	0
	Public Works	5,590
	Total	<u>\$ 12,012</u>

Alternative II

B.	Hotel Development - 10 acres	
C.	Commercial - 3 acres	
D.&E.	Residential, total population estimate is 1,140.	
	Residential acres developed are = 38.	
	<u>Costs</u>	
	General/Administrative	\$ 32,968
	Fire Department	33,177
	Police Department	54,000
	Community Services	22,390
	Public Works	57,018
	Total	<u>\$199,553</u>

Alternative III

B.	Hotel development - 10 acres	
C.	Commercial Development - 5 acres	
D.&E.	Residential development - 74 acres and population total of 2,193	
G.	Professional Office Development - 13 acres	
	<u>Costs</u>	
	General/Administration	\$ 65,937
	Fire Department	66,353
	Police Department	162,000
	Community Services	43,071
	Public Works	114,036
	Total	<u>\$451,397</u>

Staff Alternative

B.	Hotel Development - 10 acres	
C.	Commercial - Hotel Companion - 2-1/2 acres	
D.	Residential - 2 acres and a population total of 100	
E.	Commercial - 2 acres - service station and mini-mart plus oil production	
	<u>Costs</u>	
5	General/Administration	\$ 9,250
	Fire Department	9,309
	Police Department	0
	Community Services	1,964
	Public Works	16,211
	Total	<u>\$ 36,734</u>



### 8.3 Public Benefits of Open Space Conservation

While the conservation areas that comprise most of Alternative 1 and Staff Alternative are expected to have public benefits, those benefits are not easily quantified. For example, Paul Gonzales, a biologist with CalTrans, has stated that portions of the wetland which are opened to tidal flushing may function as a "nursery" for some aquatic animals. The wetland could provide an area where certain species of fish could develop and these fish would have the potential of contributing directly to the sport and commercial fishing industries. These industries do generate economic benefits.

Also, property that is placed in public trust for restoration and conservation purposes, while not generating property tax or sales tax revenue, does enhance the value of adjacent properties. The National Association of Home Builders (NAHB) has stated that in the vicinity of park and recreation areas values of building sites are enhanced up to 15-20 percent with a level of sustained value over the years.\* A variety of studies have been produced throughout the United States supporting the findings of NAHB. The subjects of the studies range from traditional parks to wetlands. It is common knowledge, for example, that homes located adjacent to Central Park in Huntington Beach or the Upper Bay in Newport Beach have higher property values because of their proximity to these open spaces.

In addition to enhancing adjacent property values, open space areas also generate minimal city service costs. The Coastal Conservancy has found that minimal costs plus benefits such as flood plain and catch basin areas in wetlands make these areas more attractive when assessing costs versus benefits.

Wetlands and estuaries also draw visitors, who generate retail spending and additional sales tax revenue in the local jurisdiction. Figure 8.4\*\* lists thirteen coastal estuaries and wetlands in California and the number of visitors or "users" per year.

A conclusion one can draw from the above information is that undeveloped land in a community is not necessarily unproductive. Low costs, enhanced adjacent property values, flood benefits, potential fishing benefits and visitor generated revenue associated with a wetland area can produce positive fiscal impacts.

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\* Source: Open Space Pays.: The Socioenvironmental Economics of Open Space Preservation, Darryl F. Caputo, New Jersey Conservation Foundation

\*\* Source: State Coastal Conservancy

Figure 8.4 ANNUAL VISITOR USE OF COASTAL ESTUARIES AND WETLANDS  
(excludes use for hunting and fishing)

<u>YEAR</u>	<u>SITE</u>	<u>ACRES*</u>	<u>COUNTY</u>	<u>USERS/YEAR</u>
1984	Arcata Marsh	90	Humboldt	112,000a
1977-81 average	Point Reyes National Seashore	2,330	Marin	1,610,450b
1970	Bodega Bay	756	Marin	10,000b
1981	San Francisco National Wildlife Refuge	17,500	Alameda	91,718b
1984 average	Elkhorn Slough area National Estuarine Sanctuary Slough	2,000	Monterey	95,400c 22,400c 73,000c
1984	Bolsa Chica	1,200	Orange	48,150d
1984	Upper Newport Bay	1,200	Orange	250e/tour 500,000f (estimate)
1984	Buena Vista	350	San Diego	65,000d
1980-81	Los Penasquitos Lagoon	385	San Diego	119,000g (estimate)
1984	Batiquitos Lagoon	580	San Diego	12,000d
1984	San Deguito Lagoon	269	San Diego	8,000d
1984	San Elijo Lagoon	500	San Diego	10,000d
1983-1985 00+ average	Tijuana River National San Diego Estuarine Santuary Border Field Park North End			2,0 57,300-72,300h 42,300h 15,000-30,000h (estimate)

\*Figures reflect total acreage. In most cases, the acreage accessible to visitors is considerably less. For example, of the 1,200 acres at Bolsa Chica 150 acres are accessible to the public.

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- a. Dave Hull, City of Arcata
  - b. ESA/Madrone, Wetlands Polidy assessment: California Case Study 1982
  - c. Ken Moore, Dept. of Fish and Game
  - d. Annual Use Report 1984, Wildlife Conservation Board
  - e. Friends of Upper Newport Bay
  - f. Ron Hein, Dept. of Fish and Game
  - g. San Diego Coastal State Park System General Plan: Torrey Pines. 1983
  - h. Paul Jorgensen, Dept. of Parks and Recreation





## 9.0 PUBLIC INTEREST

When the California voters adopted Proposition 20 in 1973, preservation of the State's shoreline and coastal resources was a major goal. Later the California Coastal Act of 1976 incorporated these concerns into legislative policies which specifically protect all coastal resources, including wetlands. The Coastal policies pertaining to wetland protection are summarized in Appendix D on page 103. Since the California Department of Fish and Game has designated almost all of the white hole area as restorable wetlands, state policy would seem to dictate that the City must designate the area for conservation. Prior to making a decision on land use, however, the City should examine regional and local impacts.

This report has addressed a number of planning issues previously identified by the City Council. None of the issues studied presents insurmountable obstacles to designation of any land uses suggested in the alternatives. Perhaps the most telling argument in favor of development in the white hole area is the enhancement of the local tax base. In this post Proposition 13 era, responsible fiscal management is increasingly important. However, even in the fiscal arena, trade-offs exist. A large restored wetland could enhance surrounding property values, and thus somewhat offset any loss of tax base due to restricted development. Restoration of existing wetlands to full function could also have positive impacts on local fisheries and tourism, which would indirectly provide positive economic benefits to the City.

Portions of the City's adopted General Plan pertain to the study area. The Open Space and Conservation Element indicates that preservation of the Santa Ana River Marsh is of medium priority in the Open Space Plan. The accompanying map (Figure 9.1 page 63) depicts the marsh area extending from the Edison plant to the Santa Ana River. In addition, the Coastal Element contains policies to protect and enhance wetlands and other sensitive habitats.

LEGEND










- |   |                   |   |                          |
|---|-------------------|---|--------------------------|
|  | Resource Preserve |  | Resource Production      |
|  | Scenic Corridor   |  | Open Space Development   |
|  | Recreation Area   |  | Open Space Plan Area     |
|  | Neighborhood Park |   | (No. Indicates Priority) |
|  | Water Area        |  | Sphere of Influence      |

FIGURE 9.1

## OPEN SPACE AND CONSERVATION ELEMENT



**NONCERTIFIED  
COASTAL AREAS**

HUNTINGTON BEACH CALIFORNIA  
PLANNING DEPARTMENT





#### 10.0 EQUITY FOR PRIVATE LANDOWNERS

One of the most difficult issues affecting land use designations in the white hole area is the problem of private property rights. The majority of the white hole area is under private ownership. These owners have paid property tax on their land for many years in the expectation of eventual financial reward from development. If the City, in response to the public interest, designates the white hole solely for conservation purposes, the expected financial rewards to the property owners will be greatly reduced.

While there is a market for wetland property which is in need of enhancement or restoration, the value of land for this purpose is considerably less than the value of land which can be developed with housing or commercial centers. The Coastal Conservancy, based on its experience in wetlands acquisition in Southern California, has found that comparable values for wetland acreage range from \$7,500 - \$10,000 per acre. Land values for residential or commercial development range from \$300,000 to over \$1 million per acre.

This conflict between private and public interest is not new, and indeed, has been faced in many other coastal areas. Sometimes the public interest has prevailed and private lands have been designated for very low intensity uses.

The California Coastal Commission has successfully defended a number of lawsuits on this point. It is likely, given the Coastal Act mandate, that such a defense would prevail in the case of Huntington Beach.

On the other hand, sometimes public interest and private property rights have compromised, with a resultant portion of the land devoted to development and the remainder preserved for the public benefit. The recent conditional approval of the Bolsa Chica Land Use Plan, or the Ballona wetlands development in Playa Del Rey are examples of such compromise.

#### 10.1 Land Swaps

One method for compensating property owners for not permitting development of their land is to give them other property to develop. This might take the form of an outright land swap, with developable land held by a public entity exchanged for the land needing protection. For example, the City could trade land it owns in other parts of the City for private property in the white hole area, thus providing the owners with another place to develop.

#### 10.2 Transfer of Development Rights

Another method of swapping development privileges is known as a "transfer of development rights" or TDR. With this method, the City would grant each property owner a certain number of development credits based on criteria related to the size and location of their holdings in the white hole area. These credits could be sold to property owners in other locations and used to increase the amounts of development which could otherwise occur there. Usually a receiver area is designated, where intensification of allowed development could reasonably be accommodated without negatively impacting surrounding areas.

TDR schemes are intricate, and only a few have been successfully implemented. They have been used to preserve historic buildings in older downtowns and to maintain sensitive open space. A TDR program would require that the City locate and designate areas where the development credits could be used. The value of the credits would depend upon the desirability of the receiver locations and the economic feasibility of intensifying development there.

#### 10.3 Restoration with Development

A third possibility for a compromise solution is to locate some development within the white hole area itself. To accomplish this, a number of agencies would have to agree upon the amount of acreage to be developed, as well as its location. Even within the white hole area, some form of TDR may be necessary to balance development possibilities with restoration priorities. Acreage which could be developed might include small areas of highly degraded wetland and areas reclaimed after removal of the southern flood control levee. These could be consolidated with the non-restorable acreage and located where restoration would be least feasible. Authorities have all agreed that the most likely and productive restoration areas are those closest to the Santa Ana River. Thus, the areas least feasible for restoration would be those between Beach Boulevard and

Newland Street. The consolidated acreage for development could be located adjacent to the existing developable land at Beach Boulevard and Pacific Coast Highway, creating an economically viable development node. The remaining areas could be bermed and restored to a functioning wetland.

#### 10.4 Outright Purchase

Perhaps the simplest method of compensating owners for the loss of development rights would be the outright purchase of their property by the City or the Coastal Conservancy. Although this method is straightforward, the difficult part would be establishing a purchase price. The appraised value of land is highly dependent upon the allowed use of the land. Since land uses have not yet been established for the white hole, an appraisal would be very difficult. Based upon the highest and best economic use of the land, the value could be very high. Considering the constraints to development, however, and the mandate of the Coastal Act to preserve wetlands, the value might be low.

The Coastal Conservancy has already talked with Daisy Piccirelli's about the possibility of purchasing her property at fair market value as determined by an approved appraisal. Although no official offers have yet been made due to lack of interest on the part of the property owner, the Conservancy has stated that they are interested in acquiring all the property within the white hole for wetland restoration and protection. Their interest in purchasing will probably continue as the City's land use designation process proceeds.





## 11.0 RECOMMENDATION

This report has presented three land use alternatives for the white hole area. Alternative 1 featured almost 100 percent wetland restoration, Alternative 2 featured substantial amounts of development along with restoration, and Alternative 3 featured nearly 100 percent development. The intent of the analysis was to examine the range of extremes of development versus restoration which could conceivably be applied to the area. In reality, however, some compromise between the three alternatives will be necessary. Such compromise is needed in order to comply with Coastal Act policies for wetland restoration while still allowing property owners to realize a return on their investment.

In selecting a compromise, perhaps the most immediately pressing constraint involves the Coastal Act policies which prevent development of restorable wetlands. If the City's selected land use alternative is not in substantial compliance with Coastal Act policies, the land use plan will not be certified and the white hole study will have been a wasted exercise. While Alternative 2 in the white hole study is certainly a compromise midway between Alternatives 1 and 3, staff believes it still allows more development than could be found to be consistent with Coastal Act policies. This determination directs the City to examine a compromise between Alternatives 1 and 2.

One rationale for selecting a land use compromise involves identifying non-restorable wetland acreages throughout the white hole area and transferring and concentrating those acreages into one or two cohesive areas for development. Section 3.2 of this report discussed the possibility of removing the channel levees on the south side of the Talbert and Huntington Beach Channels in order to restore large areas to active wetland. Staff has conservatively estimated the south side of the channels to comprise approximately 8.3 acres. Since this land is now developed as channel levee, it is not classified as either wetland or degraded restorable wetland. Staff proposes that the development rights for this acreage be transferred and reassembled elsewhere in the white hole area.

Apart from the channel levees there are also additional non-wetland or non-restorable wetland designated acreages in the white hole. There are presently approximately 2.0 acres located at the mouth of the Santa Ana River which are zoned LUD-FP1 (Limited Use District combined with Floodplain Development Regulations). This property has been identified by the Department of Fish and Game as non-restorable former wetland. Additionally, at the northeast corner of Magnolia Street and the Huntington Beach Channel are 1.2 net acres of City-owned land which are not designated wetlands by the State. Together, these two areas comprise a total of approximately 3.2 acres. When combined with the 8.3 acres contained in the channel levees, there are approximately 11.5 acres of potentially developable property in the white hole.

All three of the land use alternatives addressed by this report have featured 5.0 acres of Commercial at the northeast corner of Beach Boulevard and Pacific Coast Highway. The development potential of this property has never been in contention and, in fact, the State Coastal Conservancy has proposed a commercial use for this area. This 5.0 acre site, in conjunction with the 11.5 acres identified above, produces a total of 16.5 acres of potentially developable property in the white hole area. Since most of this acreage is dispersed in otherwise non-developable fragments throughout the white hole area, however, staff proposes that the development rights for these fragments be transferred into two cohesive areas.

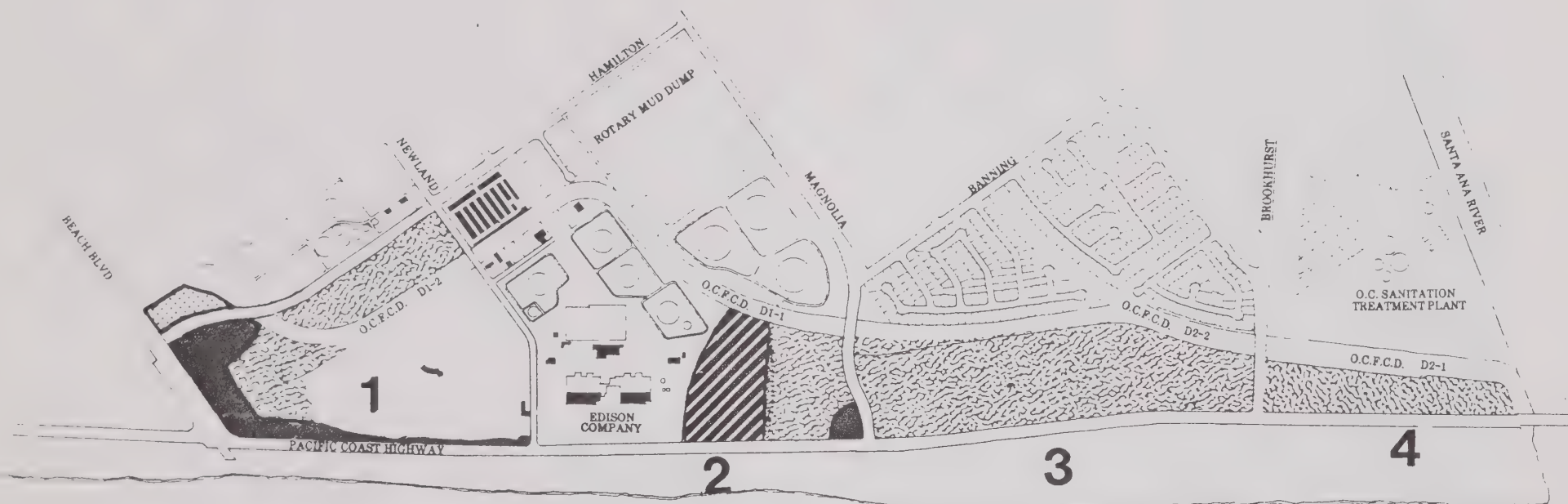
As indicated on Figure 11.1, staff is proposing development of a total of 16.5 acres divided into two nodes in the white hole and in return requiring the restoration of 130.5 acres to productive wetland. The smallest development node contains 2.0 acres of Commercial at the northwest corner of Magnolia Street and Pacific Coast Highway. The intent is to allow a 1.5 acre service station with convenience market in conjunction with a 0.5 acre oil/gas production facility. The gas facility, discussed in Section 5.1 of this report, is presently planned for a one acre site generally located further to the north. Staff feels that the impacts of the production site could be minimized if it were reduced in size and moved to the south in conjunction with a small commercial center. With proper landscaping and architectural treatment, the two uses could be combined into one attractive and compatible package. The convenience market would serve beachgoers as well as neighborhood residents to the north.

With the 2.0 acre site at Magnolia Street and Pacific Coast Highway, 14.5 developable acres remain. Staff proposes that this acreage be located on the east side of Beach Boulevard north of Pacific Coast Highway. 5.0 acres of this area would remain as the Coastal Conservancy's proposal for a hotel/commercial center extending eastward along Pacific Coast Highway from Beach Boulevard. Staff would then add an additional 7.5 acres of Commercial along Beach Boulevard to the north of the hotel. This expanded commercial area could accommodate an enlarged hotel in conjunction with restaurants and other related facilities. The combined commercial area would total 12.5 acres and would extend northward as far as the Hamilton Avenue connection to Beach Boulevard. The remaining 2.0 acres north of Hamilton Avenue would be designated Medium-High Density Residential and would abut the Breakers apartment project.

Discussion of staff's land use recommendation must also address the Southern California Edison Company's undeveloped 17 acres of property to the southeast of their generating plant. Although this area has been designated wetland by the Department of Fish and Game, the Coastal Act provides for expansion of existing energy facilities in wetlands under certain conditions. Staff, therefore, recommends that this property be designated Conservation/Industrial Energy Production. This designation will accommodate interim leasing of the property for wetlands enhancement without precluding future expansion of Southern California Edison's energy facility.

In summary, staff's recommendation is for a total of 2.0 acres of Medium High Density Residential, 14.5 acres of Commercial and 130.5 of wetland restoration with 17 acres of that retained for future Edison Company expansion. Staff feels that this proposal constitutes a realistic compromise between the interests of wetland restoration and return on property investment. While much of the proposed 16.5 acres of development certainly are located in areas of potentially restorable wetland, the fact that approximately 130.5 acres of degraded wetland are proposed to be restored elsewhere constitutes a realistic trade-off. This trade-off is enhanced by the restoration to highly functioning wetland of the 130.5 acres which are presently degraded and continuing to deteriorate. This proposal is further bolstered by the fact that the 16.5 acres are salvaged entirely from existing non-restorable or non-wetland designated properties. From an economic standpoint, even though 16.5 acres will probably not appear to the various property owners in the white hole area as a substantial opportunity for development, it will allow them a much better return on their property than a straight sale for restoration purposes. Further, since staff's proposal does focus development at one end of the white hole area, there should be some type of transfer of development rights agreement prepared to allow the major property owners to share in development of the 16.5 acres in a pro-rata amount based on the percentage of the white hole area they own.





# ACREAGE TABULATION

AREA 1		AREA 4	
Visitor Serv. Commercial	12.5 AC	Conservation	16 AC
Med/High Res	2		
Conservation	23.5		
AREA 2		TOTAL ACREAGE	
Visitor Serv. Commercial	2 AC	Visitor Serv. Commercial	14.5 AC
Conservation/Ind. Energy Product	17	Med/High Res.	2
Conservation	8	Conservation/Ind. Energy Product	17
		Conservation	113.5
AREA 3			
Conservation	56 AC	TOTAL	147 AC

	VISITOR COMM.
	CONSERVATION
	MED-HIGH RES.
	CONSERVATION IND ENERGY PRODUCT.

FIGURE 11.1

LAND USE  
STAFF RECOMMENDATION



NONCERTIFIED  
COASTAL AREAS

HUNTINGTON BEACH CALIFORNIA  
PLANNING DEPARTMENT



## APPENDIX A

### EDISON PROPERTY - PROPERTY TAX REVENUE

Although public utility property tax is not reported in the County Tax Assessor rolls it is assessed in the same manner as private property , one percent of the assessed market valuation. Public utility land and improvements are assessed by the State Board of Equalization and reported in a special document sent to County tax assessors. For example, the 17 acre Edison site discussed in the report has an 1985-86 assessed market valuation of approximately \$1,535,992. The City is currently collecting an estimated \$3,072 in property tax revenue from that 17 acre parcel.

The resource for the above information was Mr. Gene DuPaul with the Valuation Division of the State Board of Equalization.\* Mr. DuPaul stated that the 17 acre site we are assessing is part of a 20 acre vacant parcel that the State Assessor has placed a value on. The State has divided the 20 acres into two parcels: a five acre parcel assessed at \$1,000,000 and a 15 acre parcel assessed at \$670,000. The five acre parcel is adjacent to the flood control channel and the assessed value is based on an estimated current market rate. In contrast, the 15 acre parcel which is adjacent to Pacific Coast Highway, along its southern boundary, is assessed at a lower value because of "Coastal Commission interest in that parcel as a wetland." The "Coastal Commission interest..." are words used by the State Assessor in explaining his rationale for placing the lower value on that parcel. This lower wetland value could affect City revenue if the entire 20 acre site is zoned as conservation. It can be assumed that the million dollar, five acre parcel would be reassessed at a lower value and, therefore generate less property tax revenue.

While the property tax revenue currently generated by the 17 acre Edison property has essentially the same value, as it relates to each alternative in the report, adoption of any one of the alternatives has the potential of reducing part of that parcel's value.

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\* Phone Conversation March 6, 1986, and follow-up correspondence dated March 19, 1986.



APPENDIX B

WHITE HOLE AREA REVENUE ANALYSIS:





## WHITE HOLE AREA REVENUE ANALYSIS

### 1.1 Property Tax

The County tax assessor collects one percent of the market valuation of new development in property tax. Of that one percent, the City of Huntington Beach collects, in tax rate area 4-001, 20.0 percent in property tax revenue.

Using the assumptions discussed for each alternative, the estimated property tax revenue generated by those alternatives is described below:

#### Alternative 1

- B. Hotel, 180 rooms on a five acre site. Construction cost \$13,420,710. City property tax revenue = \$26,841

Total property tax revenue estimate for Alternative I = \$26,841.

#### Alternative 2

- B. Hotel and visitor-serving commercial, 400 rooms on a 10 acre site. Estimated constructed cost is \$32,000,000; City property tax revenue would equal \$64,000.
- C. Commercial - neighborhood center/visitor-serving, 32,670 square feet of building area on a three acre site. Construction costs are estimated to be \$6,534,000; City property tax revenue estimate is \$13,068.
- D. Condominium development, 15 acre site, 225 units with an estimated market value of \$45,000,000; City property tax revenue estimate is \$90,000.
- E. Condominium development, 23 acre site, 345 units with an estimated market value of \$82,110,000; City property tax revenue estimate is \$164,220.

Total property tax revenue estimate for Alternative 2 = \$331,288

#### Alternative 3

- B. Hotel and visitor-serving commercial, 400 rooms on a 10 acre site. Estimated construction cost is \$32,000,000 and City property tax revenue estimate is \$64,000.
- C. Commercial, visitor-serving, on a five acre site containing a 54,450 square foot building which would have an estimated construction value of \$10,890,000 and City property tax revenue estimate is \$21,780.

- D. Residential - apartment and condominium development (total 270 units) with an estimated market value of \$29,700,000 resulting in City property tax revenue of \$59,400.
- E. Condominium development on a 52 acre site, totalling 840 units at a market value of \$199,920,000 generating \$399,840 in City property tax revenue.
- G. Professional Office, R-5, research and design facility with a building area of 427,846 square feet resulting in a construction value of \$38,507,040. The City property tax revenue estimate is \$77,014.

Total estimated property tax revenue for Alternative III is \$622,034.

#### Staff Alternative

- A. Conservation land uses totaling 113.5 acres. Assuming a transfer of these acres to a public trust entity, such as the Conservancy, would result in zero property tax revenue.
- B. Hotel and visitor-serving commercial. This scenario would be the same as Alternatives 2 and 3, a 400 room hotel with commercial uses within the hotel complex. The property tax revenue for this complex is estimated to be \$64,000.
- C. Commercial - companion development to the hotel complex. This two and one half acre site, the balance of the 14 acre visitor serving commercial, would have 27,225 square feet of commercial building. Assuring similar construction as the commercial entities in Alternatives 2 and 3, this center would have an estimated construction cost/value of \$5,445,000, resulting in property tax revenue of \$10,890.
- D. Condominium development on a two acre parcel on Beach Boulevard between the proposed four acre commercial center and the existing Breakers Apartments. At a density of 25 units per acre these 50 residential units would have an average market value of \$120,000. Therefore, the estimated property tax revenue would be \$12,000.
- E. Visitor-serving commercial - service station with mini-mart at the northwest corner of Magnolia and Pacific Coast Highway. Based on an existing station with mini-mart, this development would have 18,900 square feet of the site developed with a mini-mart consisting of approximately 2,000 square feet. Again, based on an existing station, the construction value of the service station would be \$200,000\* and the remaining acreage would have an estimated market value of \$53,406. The estimated property tax revenue from this site would be \$507.
- F. Total Property Tax Revenue = \$87,397

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\* This estimate includes the structure plus gasoline tanks and equipment.

## 1.2 Sales Tax

State sales tax revenue, six cents on every dollar, is collected from retail sales in the City. Of that revenue, the City receives one percent, or one cent of the six cents. In this analysis, sales tax revenue will be generated by the hotel development, commercial (neighborhood and visitor-serving) and from new residents who would occupy residential units (apartments and condominiums).

In addition to Laventhal & Horwarth's hotel study, another Urban Land Institute publication (Dollars and Cents of Shopping Centers) was used as a resource for this section of the analysis.

### Alternative 1

- B. The hotel would contain a restaurant, coffee shop and banquet facilities. Annual food and beverage sales are estimated to total \$1,440,000 based on a 7,500 square foot facility generating \$192 per square feet. Retail sales tax revenue would be \$14,400.

Total sales tax revenue generated by Alternative 1 = \$14,400.

### Alternative 2

- B. The 400 room hotel visitor serving commercial retail sales is estimated as follows:

Food and beverage sales based on a 16,665 square foot facility, including restaurant, coffee shop, banquet and conference facilities, is estimated to generate \$192 in taxable sales per square foot per year totalling \$3,199,680 and generating \$31,997 in sales tax revenue.

The hotel would contain boutiques, gift shops and clothing stores requiring approximately 2,000 square feet of building area. It is assumed these retail stores would be in a companion structure adjacent to the hotel. It is estimated that these stores would generate \$200 per square feet per year in taxable retail sales, generating \$4,000 in sales tax revenue.

- C. Commercial - Neighborhood Center/Visitor-Serving. This mixed use center consisting of 32,670 square feet is estimated to generate \$150, per square foot, per year, in taxable retail sales. The annual sales tax revenue generated by this center would be \$49,005.

D./

- E. The 225, \$200,000 per unit condominiums and the 345, \$238,000 per unit condominiums in this alternative are estimated to generate similar sales tax revenue per unit. An annual average income for a family of two persons needed to purchase a \$200,000 unit is expected to be \$60,000; for the \$238,000 unit

an annual income of \$71,400 would be needed. The IRS Optional State Sales Tax Table estimates that a family of two persons with an annual income of \$65,000 will generate \$456 dollars in sales tax revenue. The City would receive one sixth (17 percent) or \$78 per family in gross sales tax revenue. For the 570 units, the annual revenue is estimated to be \$44,460.

It is assumed that a major portion, 60 percent, of sales tax revenue generated by residents in Huntington Beach is collected by neighboring cities; this revenue loss is referred to as "leakage". Because of this "leakage", the estimated net sales tax revenue collected by the City for the residential portion of Alternative 2 would be \$17,784.

Total estimated sales tax revenue generated by Alternative 2 = \$102,786.

### Alternative 3

- B. Hotel - This is the same scenario as Alternative 2. The total estimated sales tax revenue generated by the hotel and affiliated facilities is \$35,997.
- C. Commercial-Visitor-Serving. The 54,450 square foot facility, supported by both seasonal customers and year-round residents in the adjacent 840 units, is estimated to generate \$200 per square feet per year in retail sales. The estimated City sales tax revenue would be \$108,900.
- D./
- E. Residential - The IRS sales tax table was also used as a resource for this alternative. The family size will be the same for all units, one to two people, and the sales tax revenue is shown in the following table:

<u>Type and Value</u>	<u>Estimated Family Income</u>	<u>IRS Estimated Sales Tax Revenue</u>	<u>Gross (40% )</u>	<u>City Net Revenue</u>
Apartments @ \$70,000/unit	\$24,000	\$270	\$46	\$18.40
Condos @ \$150,000/unit	\$45,000	\$399	\$68	\$27.20
Condos @ \$238,000/unit	\$71,400	\$494	\$84	\$33.60



Sales tax revenue per type of residential development is:

135 apartments =	\$2,484
135 condominiums =	\$3,672
840 condominiums =	\$28,224
Total	34,380

Total estimated sales tax revenue for Alternative 3 is \$179,277.

Staff Alternative

- B. Hotel, the same as Alternatives 2 and 3. Estimated sales tax revenue would be \$35,997.
- C. Commercial center adjacent to the hotel would have annual sales of approximately \$200 per square foot generating annual retail sales tax revenue of \$54,450.
- D. Residential. The condominium complex would require an average family income, per unit, of approximately \$40,000. Using the IRS/sales tax tables for a family of one to two persons the following sales tax revenue is derived:

<u>Family Income</u>	<u>IRS Estimate</u>	<u>City Gross Sales Tax Revenue</u>	<u>City Net Revenue</u>
\$40,000	\$380	\$65	\$26

- E. Service Station with mini-mart. Service stations generate sales tax based on gasoline sales, a portion of the items sold in the mini-mart and parts sold in conjunction with any vehicle repairs performed on the premises. Steve Shelton of the Southern California Service Station Association states,\* "that the above type of station generates annual sales ranging from \$600,000 to \$3 million." However, Mr. Shelton could not provide an estimate of the sales that would generate sales tax revenue.

Mr. Richard West from the State Finance Office said that the percent of sales tax would vary according to the extent of vehicle repair and type of parts sold in conjunction with that repair. Because of limited data this analysis will assume that the hypothetical station generates \$600,000 in annual sales and that 80 percent of those sales generates retail sales tax revenue. The City's share of that sales tax revenue would be \$4,800 annually.

Total sales tax revenue = \$96,547.

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\*Phone conversation, March 5, 1986.

### 1.3 Economic Spin-Offs/Additional Sales Tax Revenue

The Los Angeles Visitors and Convention Bureau published a study that assesses the economic spin-off effects from the establishment of a new hotel. The hotel guest can be expected to frequent local business entities within the City, generating additional sales tax revenue. Depending on the available amenities, the City of Huntington Beach would capture 25 to 60 percent of each dollar spent by the hotel guest.

The distribution of hotel guests spending is as follows:

<u>Source</u>	<u>Percent</u>
Food and Beverage	26
Lodging	26
Retail purchases	14
Local transportation	11
Entertainment/recreation	15
Miscellaneous	8
	<u>100%</u>

Although the data is not available to estimate the "spin-off" effects of sales tax revenue from the hotel scenarios discussed in this analysis, it is reasonable to assume the City will in fact collect additional revenue.

### 1.4 Transient Occupancy Tax

The City of Huntington Beach collects a six percent Transient Occupancy Tax on hotel and motel room fees.

#### Alternative 1

The 180 room hotel would charge average room fees of \$80 per night. Using an average occupancy rate of 73 percent the annual revenue would be \$3,805,344. Transient occupancy tax revenue collected by the City would be \$228,321.

#### Alternatives 2 and 3

The 400 room hotel scenario used in both of these alternatives would generate \$8,526,400 based on an average room fee of \$80 per night and an annual occupancy rate of 73 percent. Transient occupancy tax revenue collected by the City would be \$511,584.

#### Staff Alternative

The 400 room hotel, like Alternatives 2 and 3, would generate \$511,584 in annual transient occupancy tax revenue.

## 1.5 Utility and Franchise

Huntington Beach collects a five percent utility user tax on the annual sales of electricity, natural gas, telephone and cable television services in the City.

A franchise tax of one percent of the annual electricity sales and four percent of the annual natural gas sales is collected from the respective utility providers in the City.

Factors used for this section of the analysis are as follows:

According to the California Energy Commission -- average electricity charges are:

Residential = \$38.56 per unit, per month

Commercial = \$.0754 cents per kilowatt hour, using 12.2 KWH per square foot applied to both hotel, retail and professional office.

Average natural gas charges are:

Residential = \$31.91 per unit, per month

Commercial = \$5.53 per million BTU's, using an annual rate of .42 BTU's per square foot applied to hotel, retail and professional office

General Telephone could not provide an average service cost for residential customers in the City, therefore an average charge of \$40 has been used in this analysis.

Annual phone charges for commercial retail and professional office entities were not available and, due to the differences in phone usage per business, an average bill or use could not be calculated at this time.

For cable T.V. service in the City, the basic rate paid by residents is \$12.50 per month. It is assumed that all new residents in City will subscribe to the cable service. This would also apply to hotel development.

### Alternative 1

The 180 room hotel is estimated to have 129,900 square feet of building area plus a parking structure. The building square footage is based on 650 square feet per room (total 117,000 square feet), 7,500 square feet of food and beverage service and 5,400 square feet of office and ancillary space.

Electricity	KWH	Annual Sales	City Revenue	
			Utility	Franchise
	1,584,780	\$119,492	\$5,975	\$1,195
Natural Gas	BTU's	Annual Sales	City Revenue	
			Utility	Franchise
	54,558	\$30,171	\$1,509	\$1,207
Cable T.V.	180 rooms 180 T.V.'s	Annual Sales	City Revenue	
				\$1,350

Total utility related revenue for Alternative 1 = \$11,236

#### Alternative 2

B. The 400 room hotel is estimated to have 290,600 square feet in building area plus a parking structure. The building square footage is based on: 260,000 square feet for rooms, at 650 square feet/room, 16,640 square feet for food and beverage service, 11,960 square feet for ancillary space and 2,000 square feet for retail shops.

Electricity	KWH	Annual Sales	City Revenue	
			Utility	Franchise
	3,545,320	\$267,317	\$13,366	\$2,673
Natural Gas	BTU's	Annual Sales	City Revenue	
			Utility	Franchise
	122,052	\$ 67,495	\$ 3,375	\$2,698
Cable T.V.	400 Rooms 400 T.V.'s	Annual Sales	City Revenue	
				\$3,000

C. Commercial; 32,670 square feet of neighborhood center/visitor serving uses.

Electricity	KWH	Annual Sales	City Revenue	
			Utility	Franchise
	398,574	\$30,052	\$1,503	\$301
Natural Gas	BTU's	Annual Sales	City Revenue	
			Utility	Franchise
	13,721	\$7,588	\$379	304



D. & E. Residential; Combining the residential scenarios results in 570 units from which average utility related revenues will be calculated.

Electricity			City Revenue	
	Annual Sales	Utility	Franchise	
	\$263,750	\$13,188	\$2,638	

Natural Gas			City Revenue	
	Annual Sales	Utility	Franchise	
	\$218,264	\$10,913	\$8,731	

Telephone			City Revenue	
	Annual Sales	Utility	Franchise	
	\$273,600	\$13,680	N/A	

Cable T.V.			City Revenue	
	Annual Sales	Utility	Franchise	
	\$ 85,500	\$ 4,275	N/A	

Total utility related revenue for Alternative 2 = \$81,022

### Alternative 3

B. The 400 room hotel is estimated to have 290,600 square feet in building area plus a parking structure. The building square footage is based on: 260,000 square feet for rooms, at 650 square feet/room, 16,640 square feet for food and beverage service, 11,960 square feet for ancillary space and 2,000 square feet for retail shops.

Electricity	KWH			City Revenue	
		Annual Sales	Utility	Franchise	
		3,545,320	\$267,317	\$13,366	\$2,673

Natural Gas	BTU's			City Revenue	
		Annual Sales	Utility	Franchise	
		122,052	\$ 67,495	\$ 3,375	\$2,698

Cable T.V.	400 Rooms 400 T.V.'s			City Revenue	
		Annual Sales	Utility	Franchise	
		\$ 60,000			\$3,000

C. Commercial, 54,450 square feet of visitor-serving uses.

Electricity	KWH			City Revenue	
		Annual Sales	Utility	Franchise	
		664,290	\$50,087	\$2,503	\$ 501

Natural Gas	BTU's			City Revenue	
		Annual Sales	Utility	Franchise	
		22,869	\$12,647	\$ 632	\$ 506

D. & E. Residential; Combining the residential scenarios results in 1,110 units from which average utility related revenues will be calculated.

	Annual Sales	City Revenue	
		Utility	Franchise
Electricity	\$513,619	\$25,681	\$ 5,136
Natural Gas	\$425,041	\$21,252	\$17,002
Telephone	\$532,800	\$26,640	N/A
Cable T.V.	\$166,500	\$ 8,325	N/A

Total utility related revenue for Alternative 3 = \$133,290.

#### Staff Alternative

Using the same methodology as applied in Alternatives 2 and 3 the estimated City revenue is as follows:

	Utility	Franchise
Electricity	17,396	\$3,479
Natural Gas	5,058	4,045
Telephone	1,200	N/A
Cable TV	3,375	N/A

Total Utility/Franchise revenue = \$34,553

#### 1.5 Business License Fees

For commercial and office uses professional business license fees are based on the number of employees per business. For hotels, the fee is based on the number of rooms, a flat rate for a restaurant with dancing and the number of employees per retail shop.

##### Alternative 1

B. According to the City's business license office, the 180 room hotel with restaurant/dancing will pay an annual license fee of \$1,405; \$6 per room per year and \$325 for the restaurant.

##### Alternative 2

B. The 400 room hotel with restaurant/dancing and gift shops will pay an annual license fee of \$2,766; \$6 per room per year, \$325 for the restaurant and \$41 for the gift shops estimating four employees (at one employee per 500 square feet of floor area).

- C. The 32,670 square foot commercial center is estimated to need 65 employees, at one employee per 500 square feet resulting in an annual fee of \$181.

Total business license fees for Alternative 2 = \$2,947

### Alternative 3

- B. The hotel scenario, a duplicate of Alternative 2 would generate \$2,766 in annual license fees.
- C. The 54,450 square foot center would require an estimated 109 employees, at one employee per 500 square feet, resulting in an annual license fee revenue of \$248.

Total business license fee revenue for Alternative 3 = \$3,014

### Staff Alternative

- B. As in Alternatives 2 and 3 the annual business license fees generated by the hotel would be \$3,132.
- C. The 27,225 square foot commercial center would generate \$614 based on an estimated 54 employees.
- E. The service station and mini-mart would generate \$45 in annual business license fees based on five employees.
- F. Oil Production - The business license fee associated with oil production is based on a fee per barrel of oil. Since an estimate of the potential oil production on the Curtis site is currently not available a business license fee could not be determined at this time.

Total Business License Fees Revenue = \$3,341

### 1.6 Additional Revenue

Additional revenue is received from new residential development on a per capita basis. In the Preliminary City Budget, Fiscal Year 1985-86, four major revenue items are applicable to this analysis. Based on the January 1985 State Department of finance population estimate\* for Huntington Beach of 179,925, the revenues are collected as follows:

Fines, Forfeitures and Penalties are \$2,131,000 divided by 179,925 equals \$11.84 per capita.

Cigarette Tax is \$530,000 divided by 179,925 and equals \$2.95 per capita.

\*As of this draft edition of the report, April 1986, the January 1986 population estimate was not available from the Department of Finance.

Motor Vehicle In-Lieu Tax is \$4,442,000 divided by 179,925 and equals \$24.69 per capita.

Gas Tax Funds (2107 and 2107.5) are \$3,121,000 divided by 179,925, equaling \$17.35 per capita.

### Population

It is assumed that the apartments will generate a population based on 1.8 persons per unit and that the condominiums will generate a population based on two persons per unit.

Alternative 1 will not generate new residents.

Alternative 2 is estimated to generate 1,140 new residents.

Alternative 3 is estimated to generate 1,950 new residents.

Staff Alternative is estimated to generate 100 new residents.

### Revenue Consideration

In addition to sales tax revenue generated by the service station with mini-mart, gasoline sales also generates gas tax revenue. Approximately eight and nine tenths cents per gallon of gasoline is gas tax, also referred to as fuel tax. A portion of these funds are returned to the City in the form of Gas Tax Funds. Two of the Gas Tax Funds reported in the City's budget list revenue returned to the City based on population. Gas Tax Fund revenue listed under "Additional Revenue" is derived from Fuel Tax revenue, based on population.

Some of the Fuel Tax Revenue is divided between the City and the County. After a lengthy discussion with Agnes Doctolero of the State Board of Equalization\*, it was determined that, at this time, it was not feasible to calculate what portion of the 8-9/10 tax per gallon of gasoline would return to the City in the form of specifically identified funds. This is, therefore, the reason why further revenue associated with service stations is not included in this analysis.

Table B-1 contains the list of revenue factors and dollar amounts per alternative.

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\* Phone conversation, March 5, 1986.



Table B-1

## WHITE HOLE LAND USE ALTERNATIVES

## Revenue Estimates

<u>Revenue Factors</u>	<u>Alternative 1</u>	<u>Alternative 2</u>	<u>Alternative 3</u>	<u>Staff Alternative</u>
. Property Tax	\$26,841	\$331,288	\$622,034	\$ 87,397
. Sales Tax	14,400	102,786	179,277	96,547
. Transient Occupancy Tax	228,321	511,584	511,584	511,584
. Utility/Cable TV Tax	11,236	81,022	133,290	34,553
. Business License	1,405	2,947	3,014	3,341
. Fines, Forfeitures and Penalties	N/A	13,498	23,088	1,184
. Cigarette Tax	N/A	3,363	5,753	295
. Motor Vehicle In-lieu Tax	N/A	28,147	48,146	2,469
. Gas Tax Fund	N/A	19,779	33,833	1,735
Totals	<u>\$282,203</u>	<u>\$1,094,414</u>	<u>\$1,560,019</u>	<u>\$739,105</u>

## 2. Costs

Development in the white hole area is expected to have some impact on City services and expenditures. In assessing possible cost impacts representatives from five departments were consulted regarding their department functions, possible cost impacts from the types of development discussed in the four white hole scenarios and how they could assist development services in measuring cost impacts. The discussions and reserach with each department has resulted in slightly different methods of assessing relative costs. These results depended on the amount of data available and the level of automation in each department. For example, the police department has the most sophisticated data analysis related to activity by type of land use. Working with the police department computerized archival data it was possible to assess the number of calls for particular types of land uses. The number of calls has a direct relationship to number of officers needed and ultimately a recommendation for the hiring of additional officers based on the impacts from development.

Essentially, each department has been treated on a case by case basis rather than applying a standard methodology to most or all of the factors considered.

Several of the proposed land uses discussed in the white hole scenario merit additional discussion: oil production, conservation and the Edison plant vacant land.

Oil production activities have been identified as having a minor impact on police and fire department services in the City. For example, in the "Fiscal Impact of Oil Operations in Huntington Beach," a City energy series study, oil operations contributed six tenths of one percent to annual fire department calls and less than two tenths of one percent to annual police department calls. Because of the minimal impacts from oil production, costs will not be assigned the proposed oil production site.

Conservation or open space areas also have minimal impact on City services and expenditures. Although measurements are not precise, reportings of police activity in the white hole area in calendar year 1985 resulted in 13 calls. These calls were coded for public lands and open fields; five of the calls were in the summer months of June and July. Also, the data available is not specific enough to rule out beach activity that generated the call as the police reporting districts include wetland area and beach.

Although the Edison plant, at some point in the future, may expand its operation into the 17 acre vacant parcel discussed in this report, for the purpose of cost impact analysis the 17 acres will be included in the conservation land use. Therefore, because of minimal cost impacts and minimal available data, conservation land uses will only be included in police costs.

## 2.1 Cost Assumptions

The City of Huntington Beach Preliminary Budget, Fiscal Year 1985-1986, was used as the primary source for this section of the analysis. Capital expenditures were excluded from the budget as they are not applicable to future or proposed development. The applicable programs under each budget item can generally be assigned to privately developed acreage in the City on the following basis: Residential land uses comprise 78 percent of privately developed acres, commercial land uses comprise 10 percent and industrial land uses comprise 12 percent. Where appropriate, this land use distribution will be used to assess cost impacts.

## 2.2 General and Administration Expenditures

While this fund includes numerous programs (a total of 20), white hole development would measurably impact only one: non-departmental. Non-departmental activities range from City utility costs to liability program costs with a 1985-86 budget of \$8,002,080. Residential related impacts would be \$6,241,622 and commercial related impacts would be \$800,208. The most equitable method to distribute this expenditure was based on the relationship of proposed land use acreage to developed acreage, by category (residential or commercial). The results are as follows:

There are approximately 9,534 acres developed for residential land uses and 1,223 acres developed for commercial land uses in the City.

Based on the proposed acreage in each alternative the costs per alternative were calculated and presented in the following table.

	<u>Alt. 1</u>		<u>Alt. 2</u>		<u>Alt. 3</u>		<u>Staff Alt.</u>	
	<u>%</u>	<u>Cost</u>	<u>%</u>	<u>Cost</u>	<u>%</u>	<u>Cost</u>	<u>%</u>	<u>Cost</u>
Residential	0	0	0.4	\$24,966	0.8	\$49,933	0.0002	\$1,248
Commercial	0.4	<u>\$3,201</u>	1.0	<u>\$ 8,002</u>	2.0	<u>\$16,004</u>	1.0	<u>\$8,002</u>
Total		\$3,201		\$32,968		\$65,937		\$9,250

## 2.3 Police Department

From surveys of similar land uses police calls per type of development were derived. Calls relate to additional officers per year. One officer's average annual salary, including benefits, is \$54,000. Five or more officers would result in capital expenditures such as a vehicle. When calls per year result in 1.0 officers than the police department would recommend hiring an officer and the annual cost would be \$54,000.

Calls and officer time involved per alternative are shown in the following table. The determining factor is that 535 calls equals one additional officer.

	<u>Alt. 1</u>	<u>Alt. 2</u>	<u>Alt. 3</u>	<u>Staff Alt.</u>
Calls	104	617	975	302.9
Additional Officer	.19	1.15	1.83	.55

Based on the above table, Alternative 2 and Alternative 3 impacts on police calls would result in recommending that additional officers be added to the department. See Table B-2 for the table that details police analysis.

#### 2.4 Fire Department

at the present time the only feasible method of measuring cost impacts upn the fire department is to use the same methodology applied to administration costs. Although the fire department functions in a similar manner as the police department, responding to calls for service, the fire department does have the level of automations that police does and therefore is unable to prepare a computer program to analyze calls for service by type of land use.

With a modified budget to more closely refelct development related expenditures, the annual total expenditure used for this analysis is \$8,052, 634. Residential development would be 78 percent or \$6,281,055 and commercial developmen would be 10 percent or \$805,263. The cost estimate for each alternative are as follows:

	<u>Alt. 1</u>	<u>Alt. 2</u>	<u>Alt. 3</u>	<u>Staff Alt.</u>
Residential	0	\$25,124	\$50,248	\$1,256
Commercial	<u>\$3,221</u>	<u>8,053</u>	<u>16,105</u>	<u>8,053</u>
Total	\$3,221	\$33,177	\$66,353	\$9,309

#### 2.5 Community Services

Community Services is primarily impacted by new residential development. Self supporting programs such as adult recreation were excluded from this analysis. Fees collected from those programs were also not included in the revenue section of this analysis because of the direct and tractable application of the revenue collected. The 1985/86 budgeted expenditures applicable to this analysis are \$4,530,343. Based on the January 1985 population estimate of 179,924 the annual per capita cost is \$19.64.



Table B-2

WHITE HOLE POLICE DEPARTMENT ANALYSIS  
CALLS GENERATED BY TYPE OF LAND USE

<u>Land Use</u>	<u>Calls</u>	<u>Total Calls/Year</u>	<u>Total Calls/Recommended Threshold For Additional Officers</u>	<u>Number of Officers and Average Annual Cost</u>
<u>Alternative 1</u>				
Hotel - 180 rooms	.5/room	90	90/535	.17 officers
Conservation - 141 acres	1/10 acres	<u>14</u>	14/535	<u>.02</u>
Totals		104		.19 officers/ zero cost
<u>Alternative 2</u>				
Hotel - 400 rooms	.5/room	200	200/535	.37 officers
Commercial - 32,670 sq.ft.	1/2,745 sq.ft.	11.90	11.90/535	.02
Residential - 570 Multi-Family, Medium Density	1.44/unit	821	821/535	1.53
Conservation - 95 acres	1/10 acres	<u>9.5</u>	9.5/535	<u>.02</u>
Totals		1042.4		1.94 officers One officer = \$54,000 Average annual cost

Table B-2 (Continued)

<u>Land Use</u>	<u>Calls</u>	<u>Total Calls/Year</u>	<u>Total Calls/Recommended Threshold For Additional Officers</u>	<u>Number of Officers and Average Annual Cost</u>
<u>Alternative 3</u>				
Hotel - 400 room	.5/room	200	200/535	.37 officers
Commercial - 54,450 sq.ft.	1/2,745 sq.ft.	19.84	19.84/535	.04
Residential - 975 Medium- Density	1.44/unit	1,404	1,404/535	2.62
135 High-Density	1.83/unit	247	247/535	.46
Conservation 44 acres	1/10 acres	4	4/535	.007
Totals		<u>1,874.84</u>		<u>3.497 officers</u> \$162,000 annual costs
<u>Staff Alternative</u>				
Hotel - 400 room	.5/room	200	200/535	.37
Commercial - 27,225 sq.ft.	1/2,745 sq.ft.	9.9	9.9/535	.02
Residential - 50 units - Medium Density	1.44/unit	72	72/535	.13
Service Station Mini-Mart 18,900 sq.ft.	1/2,316 sq.ft.	8	8/535	.01
Conservation 130 acres	1/10 acres	13	13/535	.02
Totals		<u>302.9</u>		<u>.55 officers</u> zero cost

## 2.6 Public Works

The Public Works budget was reduced to \$13,668,664 by eliminating programs that are self supporting. According to Public Works staff, service throughout the City is essentially the same regardless of the type of land use. Therefore, the per acre cost for all alternatives would be \$1,118.

## 2.7 Estimated Costs Per Alternative

### Alternative I

#### B. Hotel Development - 5 acres

##### Costs

General/Administration	\$ 3,201
Fire Department	3,221
Police Department	0
Public Works	5,590
Total	<u>\$ 12,012</u>

### Alternative II

#### B. Hotel Development - 10 acres

#### C. Commercial - 3 acres

#### D.&E. Residential, total population estimate is 1,140. Residential acres developed are = 38.

##### Costs

General/Administrative	\$ 32,968
Fire Department	33,177
Police Department	54,000
Community Services	22,390
Public Works	57,018
Total	<u>\$199,553</u>

### Alternative III

#### B. Hotel development - 10 acres

#### C. Commercial Development - 5 acres

#### D.&E. Residential development - 74 acres and population total of 2,193

#### G. Professional Office Development - 13 acres

##### Costs

General/Administration	\$ 65,937
Fire Department	66,353
Police Department	162,000
Community Services	43,071
Public Works	114,036
Total	<u>\$451,397</u>

### Staff Alternative

- B. Hotel Development - 10 acres  
C. Commercial - Hotel Companion - 2 1/2 acres  
D. Residential - 2 acres and a population total of 100  
E. Commercial - 2 acres - service station and mini-mart plus oil production

#### Costs

General/Administration	\$ 9,250
Fire Department	9,309
Police Department	0
Community Services	1,964
Public Works	16,211
Total	<u>\$ 36,734</u>

### 3.0 Revenue/Cost Summary

#### Alternative 1

Revenue = \$ 282,203  
Costs = 12,012  
Revenue to Cost Ratio is 23.49

#### Alternative 2

Revenue = \$1,094,414  
Costs = 199,553  
Revenue to cost ratio is 5.48

#### Alternative 3

Revenue = \$1,560,019  
Costs = 451,397  
Revenue to cost ratio is 3.46

### Staff Alternative

Revenue = \$ 739,105  
Costs = 36,734  
Revenue to cost ratio is 20.12



APPENDIX C  
PLANTS AND ANIMALS OF THE HUNTINGTON BEACH WETLANDS

A survey was undertaken of the plants and animals in the Huntington Beach Wetlands by Harold Hunt, Water Research and Testing Unit, CALTRANS in July of 1984 for the Pacific Coast Highway Widening Project EIS. Included in the report was a table, taken from the 1982 Department of Fish and Game Wetlands determination, which lists all the wetland plant species found in the area.

# WETLAND PLANT SPECIES WITHIN THE HUNTINGTON BEACH WETLAND

<u>Landowner</u>	<u>Location</u>	<u>Wetland Species Present (See Legend)</u>	<u>Legend</u>
State of California	1. Santa Ana River to Brookhurst St.	1 8 10	1 Salicornia virginica
	2. Brookhurst St. to Magnolia St.	1 3 4 6 8 11	2 Salicornia subterminali
	3. East of Beach Boulevard	1 2 8 9 12 13	3 Frankenia grandifolia
City of Huntington Beach	1. West of Beach Blvd.	1 3 5 6 7 8 9	4 Juncus acutus
So. Calif. Edison	1. West of Magnolia Street	1 8	5 Scripus olneyi
Thorpe	1. East of Magnolia Street	1 3 8	6 Scripus californicus
	2. West of Magnolia Street	1 3 4 12	7 Cyperus sp.
Mills Land & Water Company	1. North and east of the flood control channel	1 3 *	8 Distichlis spicata
	2. West of the flood control channel	1 3	9 Typha sp.
			10 Ruppia maritima
			11 Jaumea carnosa
			12 Scripus robustus
			13 Cotula coronopifolia

This list is not intended to be exhaustive but rather represents most common wetland indicator species present on August 23, 1982.

\* Mostly dead vegetation as a result of discing

From DFG, 1982

## Invertebrates

The following invertebrates are characteristic of the Coastal Dune-Coastal Marsh Habitat Complex of the white hole area:

Water Boatman (Trichocorixa reticulata)

Damselfly (Ishnura sp.)

Seed Shrimp (Subclass Ostracoda)

Amphipods (Order Amphipoda)

Back Swimmers (Family Notonectidae)

Mosquitos (Family Culicidae)

Salt Flies (Family Ephydriidae)

Near the leaking pipe that is on the blind end of the Huntington Beach Channel near Beach Boulevard, there are small populations of the Lined Shore Crab Pachygrapsus crassipes and the Salt Marsh Snail Melampus olivaceus. In the marsh area adjacent to Seminouk Slough exists a population of the California Horn Snail (Cerithidea californica). Along the channel within the parcel of degraded coastal marsh between Brookhurst and the Santa Ana River there is a population of Fiddler Crab (Uca crenulata).

## Vertebrates

No reasonably comprehensive survey of amphibians, reptiles or mammals has ever been undertaken in the Coastal Dune-Coastal Marsh Complex of the APEI. Generally, these animals are more secretive in their habits than are many birds. Doing a survey of the area would require the establishment of a trapping network and night observations, things which were precluded by cost and time constraints. However, it is known that at least one coyote (Canis latrans) and populations of Audobons Cottontail Rabbit (Sylvilagus audobonni), and Beechy's Ground Squirrel are present.

## Birds

The following bird species are known to occur in the subject wetland area. The list is not intended to be exhaustive; it is based on actual field observation by the Department of Fish and Game and other reliable sources (DFG, 1982).

Wading birds:

Great blue heron	<u>Ardea herodias</u>
Great egret	<u>Casmerodius albus</u>
Snowy egret	<u>Egretta thula</u>
Cattle egret	<u>Bubulcus ibis</u>
Black-crowned night heron	<u>Nycticorax nycticorax</u>

Surface ducks:

Mallard	<u>Anas platyrhynchos</u> *
Northern Pintail	<u>Anas acuta</u> *
Green-winged teal	<u>Anas crecca</u> *
Blue-winged teal	<u>Anas discors</u> *
Cinnamon teal	<u>Anas cyanoptera</u> *
American wigeon	<u>Anas americana</u> *
Northern Shoveler	<u>Anas clypeata</u> *

Diving ducks:

Lesser scaup	<u>Aythya affinis</u> *
Surf scoter	<u>Melanitta perspicillata</u> *
Bufflehead	<u>Bucephala albeola</u> *

Stiff-tailed ducks:

Ruddy duck	<u>Oxyura jamaicensis</u> *
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Kites, hawks, falcons (observed foraging in wetland areas)

Black-shouldered kite	<u>Elanus caeruleus</u> *
Red-tailed hawk	<u>Buteo jamaicensis</u>
Northern harrier	<u>Circus cyaneus</u>
American kestrel	<u>Falco sparverius</u>

Shorebirds:

Semipalmated plover	<u>Charadrius semipalmatus</u>
Killdeer	<u>Charadrius vociferus</u>
Black-bellied plover	<u>Pluvialis squatarola</u>
Long billed curlew	<u>Numenius americanus</u>
Whimbrel	<u>Numenius phaeopus</u>
Willit	<u>Catoptrophorus semipalmatus</u>
Greater yellowlegs	<u>Tringa melanoleucus</u>

\* Denotes Sensitive Species



## Shorebirds

Least sandpiper  
Dunlin  
Western sandpiper  
Marbled godwit  
American avocet  
Black-necked stilt  
Red-necked phalarope  
Dowitcher spp.  
Wilson's phalarope  
Sanderling  
Lesser yellowlegs  
Lesser golden plover  
Spotted sandpiper

Calidris minutilla  
Calidris alipina  
Calidris mauri  
Limosa fedoa  
Recurvirostra americana  
Himantopus mexicanus  
Phalaropus lobatus  
Limnodromus spp.  
Phalaropus tricolor  
Cattaris alba  
Tringa flavipes  
Pluvialis dominica  
Actitis macularia

## Gulls and terns:

Western gull  
Herring gull  
California gull  
Ring-billed gull  
Bonaparte's gull  
Heerman's gull  
Forster's tern  
California least tern  
Caspian tern

Larus occidentalis  
Larus argentatus  
Larus californicus  
Larus delawarensis  
Larus philadelphia  
Larus heermanni  
Sterna forsteri  
Sterna antillarum browni\*  
Sterna caspia

## Miscellaneous wetland-related species:

American coot  
Belding's savannah sparrow  
Red-winged blackbird  
Eared Grebe  
Double-crested cormorant  
Belted kingfisher  
Marsh wren

Fulica americana \*  
Passerculus sandwichensis beldingi  
Agelaius phoeniceus  
Podiceps nigricollis  
Phalacrocorax auritus  
Ceryle alcyon  
Cistothorus palustris

## Miscellaneous species not directly related to wetland habitat:

Mourning dove  
American crow  
Northern mockingbird  
European starling  
English Sparrow  
Western meadowlark  
House finch  
American goldfinch  
Lesser goldfinch  
Song sparrow  
Cliff swallow  
Barn swallow  
Violet-green swallow

Zenaidura macroura \*  
Corvus brachyrhynchos \*  
Mimus polyglottus  
Sturnus vulgaris  
Passer domesticus  
Sturnella neglecta  
Carpodacus mexicanus  
Carduelis tristis  
Carduelis psaltria  
Melospiza melodia  
Hirundo pyrrhonota  
Hirundo rustica  
Tachycineta thalassina

Miscellaneous species not directly related to wetland habitat:  
(con't.)

Northern Rough-winged  
swallow  
Bank swallow  
Loggerhead shrike  
Northern flicker  
Anna's hummingbird  
Black phoebe  
Rock dove  
Raven  
White-crowned sparrow  
Water pipit  
Yellow rumped warbler  
Brewer's blackbird  
Brown towhee

Stelgidopteryx serripennis  
Riparia ripagia  
Lanius ludovicianus  
Colaptes auratus  
Calypte anna  
Sayornis nigricans  
Columba livia  
Corvus corax  
Zonotrichia leucophrys  
Anthus spinoletta  
Dendroica coronata  
Euphagus cyanocephalus  
Pipilo fuscus

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\* Donotes Sensitive Species

## APPENDIX D

### SUMMARY OF STATE AND FEDERAL REGULATORY INVOLVEMENT REGARDING WETLAND AREAS

The alteration of wetlands associated with development, such as diking, dredging or filling, is subject to the regulatory requirements of several federal and state agencies. For development in wetlands to occur, permits or agreements by the California Coastal Commission (CCC), the California Department of Fish and Game, and the Corps of Engineers must be obtained. Additional permits or approvals may be needed by the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) depending on the operation proposed; and the State Lands Commission (SLC) if the project is proposed on land that is owned by the State.

#### A. Coastal Commission

Decisions regulating development in the coastal zone made by the Coastal Commission in permitting and Local Coastal Plan certification are based upon policies in the Coastal Act of 1976.

Provisions for protecting and enhancing wetlands:

1. Environmentally sensitive habitat areas shall be protected against significant disruption of habitat values (Section 30240-a).
2. Development adjacent to environmentally sensitive habitat areas shall be designed to be compatible with the continuance of such habitat areas (Section 30240-b).
3. Coastal-dependent developments shall not be sited in a wetland except as provided (Section 30255).
4. Marine resources shall be maintained, enhanced and, where feasible, restored (Section 30230).
5. The biological productivity of wetlands appropriate to maintain optimum populations of marine organisms shall be maintained and, where feasible, restored (Section 30231).

Types of development permitted in wetlands:

1. Wetland restoration activities (Section 30233-a).
2. Nature study, aquaculture or similar resource-dependent activities (Section 30233-a).
3. Incidental public services which temporarily impact the resources of the area, such as burying cables and pipes, and maintenance of existing intake and outfall lines (Section 30233-a).
4. Entrance channels for new or expanded boating facilities may be constructed in wetlands (Section 30233-a).
5. In degraded wetlands, as identified by the Department of Fish and Game, boating facilities other than entrance channels may be constructed under special circumstances (Section 30233-a).
6. Coastal-dependent industrial facilities, such as commercial fishing facilities, may be constructed or expanded (Section 30233-a).
7. Energy facilities may be constructed or expanded (Section 30233-a).
8. Port facilities may be constructed or expanded (Section 30233-a).
9. Existing degraded depths in navigational channels, turning basins and boat launch areas may be maintained or previously dredged depths may be restored (Section 30233-a).

B. California Department of Fish and Game

Pursuant to Sections 1601 and 1603 of the Fish and Game Code, the Department of Fish and Game (DFG) regulates wetland alterations. A written agreement issued by the DFG satisfying Sections 1601 and 1603 is required prior to any development in a wetland. The DFG is directed by the State Endangered Species Act and State Native Species Conservation and Enhancement Act to protect the State's endangered species.

Senate Concurrent Resolution No. 28 (September 13, 1979) has given the DFG the responsibility of proposing plans to protect, preserve, restore, acquire and manage wetlands. In addition, the DFG reviews and comments on development permits issued by the Coastal Commission and the Corps of Engineers.

Both the Coastal Commission and the DFG take under advisement the State Resources Agency Basic Wetlands Policy which states:



"It is the basic policy of the Resource Agency that this Agency and its Department, Boards and Commissions will not authorize or approve projects that fill or otherwise harm or destroy coastal, estuarine, or inland wetlands.

Exceptions to this policy may be granted provided that the following conditions are met:

1. The proposed project must be water dependent or an essential transportation, water conveyance or utility project.
2. There must be no feasible, less environmentally damaging alternative location for the type of project being considered.
3. The public trust must not be adversely affected.
4. Adequate compensation for project-caused losses shall be a part of the project. Compensation, to be considered adequate, must meet the following criteria:
  - a. The compensation measures must be in writing in the form of either conditions on a permit or an agreement signed by the applicant and the Department of Fish and Game or the Resources Agency.
  - b. The combined long-term 'wetlands habitat value' of the lands involved (including project and mitigation lands) must not be less after project completion than the combined 'wetland habitat value' that exists under pre-project conditions."

#### C. Corps of Engineers

The Army Corps of engineers (COE) regulates development in the wetlands. Section 401, Rivers and Harbors Act, requires Corps approval for any alteration of the canals.

Section 1344(c), 1413(a) and 404 of the Clean Water Act regulate fill in the wetland as follows:

1. Section 1355(c) requires permits for the disposal of dredged or fill materials into navigable waters. The Secretary of the Army is authorized to deny or restrict the use of any disposal site for fill if the discharge of fill into the area will have an unacceptable adverse effect on wildlife or recreational areas.
2. Section 1413(a) authorizes the Secretary of the Army to issue permits after notice and opportunity for public hearings, for the transportation of dredged material for the purpose of dumping it into ocean waters, where the Secretary determines that the dumping will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems or economic potentials.

3. Section 404 requires permits for any development that would discharge dredged or fill material into any waters of the United States, including wetlands.

The Corps of Engineers wetland policy guidelines state:

The purpose of a proposed structure or work will be examined with a view toward avoiding siting in wetland areas. If that purpose is not dependent on waterfront access, or can be satisfied by the use of an alternate site or by use of existing public facilities, the application will ordinarily not be granted. The applicant will be required to demonstrate that a feasible alternate site does not exist; the inability to finance or acquire an alternate site is not a factor in the determination of feasibility.

Unless the public interest requires otherwise, no permit shall be granted for work in wetlands identified as important . . . unless the District Engineer concludes, on the basis of the analysis required in . . . (the public review) . . . that the benefits of the proposed alteration outweigh the damage to the wetlands resource and the proposed alteration is necessary to realize those benefits. (33 Code of Federal Regulations 209.120).

The guidelines mandate the denial of Section 404 permits unless the applicant is able to demonstrate both of the following: (1) that the activity associated with the fill must have direct access or proximity to, or be located in the water resource in order to fulfill its basic purpose or that other sites or construction alternatives are not practical; and (2) that the proposed fill and the activity associated with it will not cause a permanent unacceptable disruption to the beneficial water quality uses of the affected aquatic ecosystem (Section 230.5 b-8 of 33 Code of Federal Regulations). \*

#### D. United States Fish and Wildlife Service

The United States Fish and Wildlife Service (U.S.F.W.S.), under the Fish and Wildlife Coordination Act, National Environmental Policy Act of 1969, the Estuary Protection Act, and other Federal laws, reviews 404 permits before they are issued by the Corps of Engineers. Although these permits are issued by the COE, responsibility is shared with the U.S.F.W.S. and permits must be consistent with guidelines issued by the U.S.F.W.S., the Environmental Protection Agency and the California Coastal Management Program.

#### E. Other Federal Legislation

##### 1. Executive Order 11988 - Floodplain Preservation

Each federal agency is charged with the responsibility to avoid the long and short term impacts associated with the occupancy and modifications of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. Each agency must take action to minimize the impact of floods on human safety, health and welfare and to restore and preserve the natural and beneficial values served by floodplains.

2. Executive Order 11990 - Wetland Preservation

Each federal agency is charged with the responsibility to avoid the long and short term impacts associated with the destruction and modification of wetland and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Each agency must take action to minimize destruction or loss of wetland and to preserve and enhance the natural and beneficial value of wetlands.

\* Source: Wetlands Protection: The Regulatory Role of the U.S. Army Corps of Engineers, 1978 Coastal Zone Management Journal Volume 4, Number 4





## APPENDIX E

### GLOSSARY

- Alluvial: of or pertaining to alluvium
- Alluvium: sediment deposited by flowing water, in a riverbed or floor plain.
- Aquifer: Water-bearing rock formation or group of formations
- Biological productivity: the rate at which energy is stored as organic material. Factors which indicate the quality of productivity include the efficiency of the transfer of stored organic material as food.
- Brackish marsh: marsh area receiving an influx of both salt and fresh water.
- Degraded wetland: wetland altered by impacts associated with man, resulting in reduced vigor and productivity of the marsh-wetland system.
- Dunes: sand formations located in the uplands.
- Ecosystem: the complex of a natural community and its environment functioning as a unit in nature.
- Environmentally sensitive area: Section 30107.5 of the California Coastal Act. "...any area in which plant or animal life or their habitat are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and development."
- Feasible: Section 30108 of the California Coastal Act. "...capable of being accomplished in a successful manner, within a reasonable period of time, taking into account economic, environmental, social and technological factors.

Fresh water marshes: marshes where the water has concentrations of salt less than five parts per 1000.

Hydric soils: soils that are saturated with water at or near the surface and are deficient of oxygen long enough during the growing season to result in properties that reflect dominant wetness characteristics near the soil surface.

Hydrophytic plants: plants which grow in or near water, wet habitats or hydric soils.

Levees: embankments to protect flooding.

Littoral zone: area between the lowest tide water mark and the highest tide water mark.

Mud flat: muddy or sandy coastal strip usually submerged at high tide.

Pickleweed: primary salt marsh vegetation that provides a feeding ground for the California Least Tern. Has the broadest distribution of any salt marsh plant.

Playa: flat area.

Pore pressure: pore - a small opening, or passage, admitting absorption or passage of liquid.

Significant pore pressure develops most commonly in cohesive soils associated with intake of water and volume changes.

Riparian habitats: areas exhibiting vegetation characteristics of those which grow adjacent to freshwater water courses and the associated animal species.

Salt flat: salt pan, shallow bare spot with bad drainage. Water evaporated leaving salt behind.

Salt marsh: a marsh in which the water is salty or brackish containing salt tolerant vegetation.

Sea Water subterranean seawater that passes through  
Percolation: porous soils, seeping up to ground level.

Shear Strength: as used in soils engineering shear strength. Usually refers to the total shearing resistance (an action or stress resulting from applied forces that causes or tends to cause two contiguous parts of a body to slide relatively to each other in a direction parallel to their plane of contact) which a specimen or element of soil is capable of developing under given conditions.

Tidal influence: an area that is affected by tides via subterranean or surface connection to the ocean.

Uplands: area above and adjacent to the level of the highest tide. Includes the dunes.

Wetland: Section 30121 of the California Coastal Act. "...lands within the coastal zone which may be covered periodically or permanently with shallow water and includes saltwater marshes open or closed brackish water marshes, swamps, mudflats and fens."

Wetland Section 30233 of the California Coastal Act.  
development; "...the diking, filling or dredging of open coastal waters, wetlands, estuaries and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse effects."





APPENDIX F  
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Appendix F  
Page Three

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